

**IN THE UNITED STATES DISTRICT COURT  
FOR THE DISTRICT OF DELAWARE**

CALLAWAY GOLF COMPANY,	)	
	)	
Plaintiff,	)	C.A. No. 06-91 (SLR)
	)	
v.	)	
	)	
ACUSHNET COMPANY,	)	<b>PUBLIC VERSION</b>
	)	
Defendant.	)	

**ACUSHNET'S OPENING BRIEF IN SUPPORT OF  
ITS MOTION FOR POST TRIAL RELIEF**

**OF COUNSEL:**

Joseph P. Lavelle  
Kenneth W. Donnelly  
Brian A. Rosenthal  
HOWREY LLP  
1299 Pennsylvania Ave., N.W.  
Washington, D.C. 20004  
Tel: (202) 783-0800

Richard L. Horwitz (#2246)  
David E. Moore (#3983)  
Hercules Plaza 6th Floor  
POTTER ANDERSON & CORROON LLP  
1313 N. Market Street  
P.O. Box 951  
Wilmington, DE 19899  
Tel: (302) 984-6000  
[rhorwitz@potteranderson.com](mailto:rhorwitz@potteranderson.com)  
[dmoore@potteranderson.com](mailto:dmoore@potteranderson.com)

*Attorneys for Defendant Acushnet Company*

Dated: January 22, 2008  
Public Version Dated: January 24, 2008  
844252 /30030

## TABLE OF CONTENTS

I.	INTRODUCTION .....	1
II.	ACUSHNET SHOULD BE GRANTED JUDGMENT OF INVALIDITY, ON ALL THE ASSETED CLAIMS, AS A MATTER OF LAW.....	2
A.	Summary Of Argument.....	2
B.	Applicable Law To Rule 50(b) Motions Based On Obviousness.....	4
C.	The Claims At Issue Are Invalid As A Matter Of Law Under The “On The Ball” Claim Construction.....	5
1.	The Patents In Suit.....	5
2.	The Prior Art Generally .....	6
3.	Proudfit With Molitor ‘751 Or Wu Discloses All Claim Elements.....	7
a.	Proudfit ‘187 .....	8
b.	Molitor ‘751 Or Wu.....	9
4.	Motivation To Combine The References Existed.....	9
5.	Reasonable Expectation Of Success .....	11
6.	Polyurethane Shore D Hardness “On The Ball” .....	13
7.	The Asserted Claims Are Invalid Over The Wilson Ultra Tour Balata Ball In View Of Molitor Or Wu .....	15
D.	The PTO Did Not Consider All The Evidence In This Trial.....	16
E.	Secondary Considerations Do Not Save The Sullivan Patents.....	17
1.	Law Of Secondary Considerations .....	18
2.	Commercial Success .....	20
F.	Grant Of JMOL Invalidating The Sullivan Patents Is Proper.....	24
G.	The Claims Are Invalid Under The “Off The Ball” Construction.....	27
III.	IN THE ALTERNATIVE TO JUDGMENT AS A MATTER OF LAW, ACUSHNET SHOULD BE GRANTED A NEW TRIAL ON THE VERDICTS AGAINST IT, ON SEVERAL ALTERNATIVE GROUNDS .....	29
A.	The Verdicts Were Irreconcilably Inconsistent And Against The Clear Weight Of Evidence; A New Trial Should Be Granted For Either Or Both Of These Reasons .....	30
1.	The Verdicts For Callaway Cannot Be Reconciled With The Verdict For Acushnet.....	30
2.	The Great Weight Of The Evidence Stands Against The Verdict, And Manifest Injustice Calls For A New Trial.....	33

B.	A New Trial Should Be Granted At Which The Test Balls May Be Admitted Into Evidence .....	34
1.	The Excluded Test Ball Evidence Was Relevant .....	35
2.	The Court Erred In Excluding The Test Ball Evidence .....	36
C.	Other Evidentiary Errors And Resulting Prejudice To Acushnet Justify A New Trial .....	39
1.	Acushnet Was Prejudiced By The Court's Erroneous Admission Of Evidence Regarding Acushnet's Veneer Concept And Hebert Patent, And Related Errors .....	39
2.	Dr. Risen's Direct Exceeded The Scope Of His Report .....	43
3.	The Court Erred In Excluding <i>Ex Parte Sullivan</i> .....	45
4.	The Court Erred In Excluding The Reexamination Files From Evidence.....	48
5.	If Acushnet Is Not Granted Judgment As A Matter Of Law, As Argued Above, The Court's Erroneous Claim Construction Ruling Warrants At Least A New Trial .....	49
IV.	OTHER ISSUES .....	50
V.	CONCLUSION.....	50

## TABLE OF AUTHORITIES

### CASES

<i>Acumed LLC v. Stryker Corp.</i> , 483 F.3d 800 (2007).....	28
<i>Allied Chemical Corp. v. Daiflon, Inc.</i> , 449 U.S. 33 (1980).....	30
<i>Anderson's-Black Rock, Inc. v. Pavement Salvage, Co.</i> , 396 U.S. 57 (1969).....	3, 18
<i>Beech Aircraft Corp. v. Rainey</i> , 488 U.S. 153 (1988).....	46
<i>In re Berg</i> , 320 F.3d 1310 (Fed. Cir. 2003).....	46
<i>Blancha v. Thomas</i> , 972 F.2d 507 (3d Cir. 1992).....	36
<i>CVI/Beta Ventures v. Tura LP</i> , 112 F.3d 1146 (Fed. Cir. 1997).....	28
<i>Cabinet Vision v. Cabnetware</i> , 1998 U.S. Dist. LEXIS 22763 (S.D. Cal., Sept. 30, 1998).....	32
<i>Chandler v. Roudebush</i> , 425 U.S. 840 (1976).....	46
<i>Coleman v. Home Depo, Inc.</i> , 306 F.3d 1333 (3d Cir. 2002).....	38
<i>Collins v. Wayne Corp.</i> , 621 F.2d 777 (5th Cir. 1980) .....	39
<i>In re Comisky</i> , 499 F.3d 1365 (Fed. Cir. 2007).....	41
<i>Custom Accessories, Inc. v. Jeffrey-Allan Industries, Inc.</i> , 807 F.2d 955 (Fed. Cir. 1986).....	26
<i>Daiichi Sankyo Co. v. Apotex, Inc.</i> , 501 F.3d 1254 (Fed. Cir. 2006).....	1



<i>Demaco Corp. v. F. Von Langsdorff Licensing Ltd</i> , 851 F.2d 1387 .....	19
<i>Dickinson v. Zurko</i> , 527 U.S. 150 (1999).....	46
<i>Dippin Dots Inc. v. Mosey</i> , 476 F.3d 1337 (Fed. Cir. 2007).....	4
<i>Dystar GmbH v. C.H. Patrick</i> , 464 F.3d 1356 (Fed. Cir. 2006).....	17, 25
<i>Finch v. Hercules Inc.</i> , 941 F. Supp. 1395 (D. Del. 1996).....	35
<i>Fineman v. Armstrong World Industrial, Inc.</i> , 980 F.2d 171 (3d Cir. 1992).....	33
<i>Fresenius Medical</i> , 2006 WL 1330003 (N.D. Cal. May 15, 2006).....	26, 27, 49
<i>Frisket, Inc. v. RealNetworks, Inc.</i> , 2007 U.S. Dist. LEXIS 54192 (N.D. Cal. July 26, 2007).....	25
<i>Fromson v. Advance Offset Plate</i> , 755 F.2d 1549 (Fed. Cir. 1985).....	26
<i>GNB Battery Techn., Inc. v. Exide Corp.</i> , 876 F. Supp. 605 (D. Del. 1995).....	31
<i>Genzyme Corp. v. Atrium Corp.</i> , 315 F. Supp. 2d 552 (D. Del. 2004).....	30, 39
<i>Graham v. John Deere &amp; Co.</i> , 383 U.S. 1 (1963).....	17, 18
<i>Hartness International, Inc. v. Simplimatic Engineering Co.</i> , 819 F.2d 1100 (Fed. Cir. 1987).....	32
<i>Honeywell International, Inc. v. Universal Avionics System Corp.</i> , 289 F. Supp. 2d 493 (D. Del. 2003).....	44, 45
<i>ID Sec. System Can. v. Checkpoint System</i> , 249 F. Supp. 2d 622 (E.D. Pa. 2004) .....	31

<i>In re Icon</i> , 496 F.3d 1374 (Fed. Cir. 2007).....	13
<i>In re Inland Steel</i> , 265 F.3d 1354 (Fed. Cir. 2001).....	18
<i>Joy Technologies, Inc. v. Manbeck</i> , 751 F. Supp. 225 (D.D.C. 1990).....	23, 24
<i>KSR v. Teleflex</i> , 127 S. Ct. 1727 (2007).....	<i>passim</i>
<i>Key Technology, Inc., v. Simco/Ramic Corp.</i> , 137 F.R.D. 322 (D. Or. 1991).....	40
<i>Knoster v. Ford Motor Co.</i> , 200 Fed. Appx. 106 (3d Cir. 2006).....	46
<i>Leapfrog Enterprises v. Fisher-Price, Inc.</i> , 485 F.3d 1157 (Fed. Cir. 2007).....	13, 25
<i>Life Technologies, Inc. v. Clontech Laboratory, Inc.</i> , 224 F.3d 1320 (Fed. Cir. 2000).....	40
<i>Lightning Lube, Inc. v. Witco Corp.</i> , 802 F. Supp. 1180 (D.N.J. 1992), <i>aff'd</i> , 4 F.3d 1153 (3d Cir. 1993).....	30
<i>Lind v. Schenley Industrial, Inc.</i> , 278 F.2d 79 (3d Cir. 1960).....	34
<i>In re Longi</i> , 759 F.2d 887 (Fed. Cir. 1985).....	31
<i>Loral Fairchild Corporation, v. Matsushita Electric Ind. Co. Ltd.</i> , 208 F. Supp. 2d 344 (E.D.N.Y. 2000) .....	47, 48
<i>Malek v. Federal Insurance Co.</i> , 994 F.2d 49 (2d Cir. 1993).....	39
<i>Malley-Duff &amp; Associate, Inc. v. Crown Life Insurance Co.</i> , 734 F.2d 133 (3d Cir. 1984).....	30, 31
<i>McMillan v. Weeks Marine, Inc.</i> , 478 F. Supp. 2d 651 (D. Del. 2007).....	45

<i>McNeil-PPC, Inc. v. Perrigo Co.</i> , 2007 U.S. Dist. LEXIS 50255 (S.D.N.Y. July 3, 2007) .....	19, 21
<i>McQueeney v. Wilmington Trust Co.</i> , 779 F.2d 916 (3d Cir. 1985).....	35, 36
<i>Monarch Knitting Machine Corp. v. Sulzer Morat GmbH</i> , 139 F.3d 877 (Fed. Cir. 1998).....	22
<i>Mycogen Plant Science, Inc. v. Monsanto Co.</i> , 243 F.3d 1316 (Fed. Cir. 2001).....	31
<i>Ormco Corp. v. Align Technology, Inc.</i> , 463 F.3d 1299 (Fed. Cir. 2006).....	8, 9, 10
<i>Pannu v. Iolab Corp.</i> , 155 F.2d 1334 (Fed. Cir. 1998).....	4
<i>Pentec, Inc. v. Graphic Controls Corp.</i> , 776 F.2d 309 (Fed. Cir. 1985).....	19
<i>Perkins-Elmer Corp. v. Computervision Corp.</i> , 732 F.2d 888 (Fed. Cir. 1984).....	4, 5
<i>Pfizer, Inc. v. Apoptex, Inc.</i> , 480 F.3d 1348 (Fed. Cir. 2007).....	25, 26
<i>Pharmastem Therapeutics, Inc., v. Viacell, Inc.</i> , 491 F.3d 1342 (Fed. Cir. 2007).....	4, 25, 47
<i>Repola v. Morebark Industrial, Inc.</i> , 934 F.2d 483 (3d Cir. 1991).....	30
<i>Richardson-Vicks Inc., v. Upjohn Co.</i> , 122 F.3d 1476 (Fed. Cir. 1997).....	1, 3, 4, 34
<i>Roebuck v. Drexel University</i> , 852 F.2d 715 (3d Cir. 1988).....	33
<i>Sandt Technology, Ltd. v. Resco Metal and Plastics Corp.</i> , 264 F.3d 1344 (Fed. Cir. 2001).....	19
<i>Schwinn Bicycle Co. v. Goodyear Tire &amp; Rubber Co.</i> , 444 F.2d 295 (9th Cir. 1970) .....	19

<i>Syngenta Seeds, Inc. v. Monsanto Co.</i> , 404 F. Supp. 2d 594 (D. Del. 2005), <i>aff'd</i> , 231 Fed. Appx. 954 (Fed. Cir. 2007) .....	33
<i>Titanium Metals Corp., v. Banner</i> , 778 F.2d 775 (Fed. Cir. 1985).....	8
<i>In re Van Geuns</i> , 988 F.2d 1181 (Fed. Cir. 1993).....	41
<i>Young Dental Manufacturing Co., Inc. v. Q3 Special Products, Inc.</i> , 112 F.3d 1137 (Fed. Cir. 1997).....	37, 38

## STATUTES

35 U.S.C. § 103 .....	18
35 U.S.C. § 112.....	14, 15
Fed. R. Civ. P. 26(a)(2)(B) .....	45
Fed. R. Civ. P. 59(a) .....	30
Fed. R. Evid. 803(8).....	46

## MISCELLANEOUS

<i>Ex Parte Sullivan</i> , 2004-0242 (B.P.A.I. 2004) .....	45
--	----

## I. INTRODUCTION

On January 7, 2008, Acushnet Company ("Acushnet") timely filed its renewed motion for judgment as a matter of law and moved for a new trial, following entry of the Court's Judgment on December 20, 2007. D.I. 409, 404.<sup>1</sup> Under an agreed-upon schedule (D.I. 408), this is Acushnet's opening brief in support of its motions.

Acushnet seeks judgment as a matter of law that claims 1 and 4 of Patent No. 6,210,293; claims 1-3 of Patent No. 6,503,156; claim 5 of Patent No. 6,506,130; and claims 1 and 3 of Patent No. 6,595,873 are invalid. The jury found claim 5 of the '293 patent invalid, and the Court entered judgment of invalidity as to that claim.

Acushnet will show that the evidence adduced at trial can support only one legal conclusion -- that all the claims-in-suit are obvious and invalid. Obviousness is a question of law based on underlying factual inquiries. *Daiichi Sankyo Co. v. Apotex, Inc.*, 501 F.3d 1254, 1256 (Fed. Cir. 2007); *Richardson-Vicks Inc., v. Upjohn Co.*, 122 F.3d 1476, 1479 (Fed. Cir. 1997). Hence, the Court should grant Acushnet's motion and find all the claims at issue invalid.

Alternatively, Acushnet seeks a new trial on the claims found valid by the jury's verdict. A new trial is warranted because, among other things: (1) the jury's verdict in favor of Callaway is irreconcilably inconsistent with its verdict in favor of Acushnet on claim 5 of the '293 patent; (2) the jury's verdict is against the clear weight of evidence; and (3) evidentiary and other errors of the Court resulted in substantial prejudice to Acushnet's ability to present its case at trial.

---

<sup>1</sup> Acushnet moved at trial for Rule 50(a) judgment. The Court reserved ruling. T.Tr. 1295-1296.

**II. ACUSHNET SHOULD BE GRANTED JUDGMENT OF INVALIDITY,  
ON ALL THE ASSETED CLAIMS, AS A MATTER OF LAW**

**A. Summary Of Argument**

The Sullivan patents (DX 1-4) claim a multi-layer golf ball comprising a core, a low acid ionomer (or a blend of ionomers) as the inner cover, and a polyurethane outer cover. The claims specify the hardness, and sometimes the thicknesses, of the cover layers. In particular, the polyurethane is required to have a hardness of less than 64, measured on the Shore D scale.

The Proudfit '187 Patent (DX-10) discloses every element of the claims except the polyurethane cover. Polyurethane, however, is a common golf ball cover material, as shown for example in the Molitor '751 Patent (DX-11) or the Wu Patent (DX-13). The combination of the Proudfit patent with either Molitor '751 or Wu, discloses every element of the claims at issue.

An express motivation to combine the references exists, as Molitor '751 teaches that its polyurethane cover can be used on a multi-layer ball such as the Nesbitt '193 Patent (DX-9) or Proudfit. Likewise, Wu teaches that polyurethane can be used as a replacement for balata, the cover material on Proudfit. The content of these prior art references was not disputed at trial.

Moreover, a motivation to combine also exists in the nature of the claimed invention. Polyurethane has been used as a golf ball cover for decades. The use of polyurethane as a cover for a three-piece ball, instead of the balata or Surlyn covers found on Proudfit '187 or Nesbitt, was a routine replacement with no unexpected results. Indeed, in the months after the introduction of the successful Titleist Professional polyurethane-covered golf ball, and the issuance of the Wu patent covering the ball's new castable polyurethane formulation, at least **four** separate entities (Acushnet, Sullivan, Callaway, and Nike/Bridgestone), working independently, designed a multi-layer ball with a polyurethane cover. T. Tr. 241:12-244:15. This evidence adds further to the strong support for a finding of obviousness.

The only teaching of the prior art plaintiff seriously disputed at trial was whether Proudfit combined with Molitor '751 or Wu would result in a ball with a polyurethane cover having a Shore D hardness of less than 64 measured "on the ball," which is how the Court construed the claims. Based on the evidence introduced at trial, a reasonable juror could only have found that the "less than 64" limitation was met. Specifically:

- Molitor '751 taught that its polyurethane cover material should be used with a Shore C hardness of 72-76, measured "on the ball." DX-11, Col. 7, lines 27-29. It also states that the cover composition should be adjusted to ensure that the required hardness is met when the cover was molded on the ball. *Id.* lines 35-53.
- Shore hardness comparison charts of the time show that a 72-76 Shore C hardness corresponds to a Shore D hardness in a range less than 60 (and certainly well less than 64). *See* PX-804. The applicant used comparison charts in the PTO to get one of the patents-in-suit (*see* PX-8 at CW0309059-61), and cannot seriously dispute their usefulness and teaching in the art. T. Tr. 603:6-604:22
- Other evidence, including Dr. Risen's patents, showed that Shore C measurements of around 71 convert to Shore D of approximately 48-49. *E.g.*, DX-1108 at col. 51-52 (Table 34). So, while no perfect "one-to-one" or linear conversion from Shore C to D may exist, the evidence clearly shows that Shore C hardness of 72-76 will be less than 64 Shore D, by an appreciable amount, and that artisans knew that.
- Many measurements of polyurethane are in evidence and all show that polyurethane is a soft material, having a Shore D hardness in the 40s or low 50s off the ball. The evidence shows that while the hardness may increase some when measured on the ball, there is no evidence that an artisan would have believed the Shore D hardness to increase so much as to exceed 64 Shore D, on the ball. T. Tr. 615:15-617:24.

In light of this showing, and in the absence of any contrary evidence, no reasonable juror could conclude that the Shore D hardness of polyurethane on the cover of a ball having the Proudfit construction would have a hardness greater than 64.

Finally, the commercial success of the Pro V1 does not support a finding that the patents-in-suit are nonobvious. Where, as here, the obviousness of the claims is apparent over many pieces of prior art, secondary considerations cannot save the patents. *See Anderson's-Black Rock, Inc. v. Pavement Salvage, Co.*, 396 U.S. 57, 60 (1969). Further, the evidence shows that balls

such as the Callaway Rule 35 used the teaching of the Sullivan patents and yet “struggled” in the market. T.Tr. 1048:6-7 (admitting the Rule 35 was not a commercial success); PX-1185. In fact, Callaway has completely abandoned the claimed technology. Tr.T. 1012:18-1014:18. The evidence also shows that the Pro V1’s success is due to many factors unrelated to the patents-in-suit. Hence, its success does not support the “legal inference” that the patents are nonobvious.

#### **B. Applicable Law To Rule 50(b) Motions Based On Obviousness**

To prevail on a renewed motion for judgment as a matter of law, a party “must show that the jury’s findings, presumed or express, are not supported by substantial evidence or, if they were, that the legal conclusion(s) implied [by] the jury’s verdict cannot in law be supported by those findings.” *Pannu v. Iolab Corp.*, 155 F.3d 1344, 1348 (Fed. Cir. 1998).

Obviousness is a question of law that requires the Court to decide “whether the subject matter of the claimed invention would have been obvious at the time the invention was made to a person of ordinary skill in the art to which the subject matter of the invention pertains.”

*Pharmastem Therapeutics, Inc., v. Viacell, Inc.*, 491 F.3d 1342, 1359 (Fed. Cir. 2007).

The jury’s determination that some claims were not proven invalid is reviewed *de novo*. *Dippin’ Dots Inc. v. Mosey*, 476 F.3d 1337, 1343 (Fed. Cir. 2007). The facts underlying the jury verdict, whether explicitly found or implicit in the verdict, are reviewed to determine if they are supported by substantial evidence. *Id.* See *Richardson-Vicks*, 122 F.3d at 1479 (“In analyzing the correctness of a JMOL overturning a jury verdict, we must consider the facts before the trial court, and then determine whether the trial court’s ultimate judgment on obviousness is correct as a matter of law.”). Substantial evidence means more than just a scintilla of it. The evidence must be relevant evidence “adequate to support the finding under review.” *Perkins-Elmer Corp. v. Computervision Corp.*, 732 F.2d 888, 893 (Fed. Cir. 1984).



**C. The Claims At Issue Are Invalid As A Matter Of Law Under The "On The Ball" Claim Construction**

**1. The Patents In Suit**

The patents-in-suit relate to multi-layer golf balls that use polyurethane as the outer cover material. DX-1, Abstract. The patents have effective priority dates of November 9, 1995 for the '293, '156, and '873 patents, and October 13, 1995 for the '130 patent. D.I. 334, Ex. 1 at 3.

The patents all claim essentially the same basic subject matter. The '293 patent is exemplary of these patents. Claim 1 claims "[a] golf ball comprising:"

a core;

an inner cover layer having a Shore D hardness of 60 or more molded on said core, said inner cover layer having a thickness of 0.100 to 0.010 inches, said inner cover layer comprising a blend of two or more low acid ionomer resins containing no more than 16% by weight of an alpha, beta-unsaturated carboxylic acid; and

an outer cover layer having a Shore D hardness of 64 or less molded on said inner cover layer, said outer cover layer having a thickness of 0.010 to 0.070 inches, and said outer cover layer comprising a relatively soft polyurethane material.

Prior art golf balls used polyurethane covers which had Shore D hardness values of less than 64 "on the ball." T.Tr. at 467:1-25. The idea to use polyurethane on a multilayer ball was not new. Rather, the use of polyurethane on a three piece construction was explicitly proposed in Molitor '751. DX-10, col. 3, lines 1-12.

The inventor's lab notebook supports the obviousness of the claimed subject matter. The inventor wrote that his idea was "generally equivalent to [Nesbitt '193]." DX-972 at CW611786.01. He added that he intended merely to make a ball like Nesbitt's using newer materials that were not available to Nesbitt in 1981. *Id.*

The Court should find that Sullivan's work remaking Nesbitt's ball in 1995, using cover materials already known in the art by 1995 is the application of only routine skill in the art.<sup>2</sup>

---

<sup>2</sup> It was agreed that the critical date for the patents-in-suit is in late-1995. D.I. 334, Ex. 1 at 3.

This seems to be a straightforward application of the Supreme Court's directions in *KSR* that obviousness should be based on a more practical, common sense analysis and that the level of obviousness in an art increases over time. *KSR v. Teleflex*, 127 S. Ct. 1727, 1746 (2007).

Sullivan admitted that polyurethane had been used as a cover for solid balls for "decades." T. Tr. 793:24-794:6; DX-843 at 413. A practitioner of ordinary skill certainly can take known materials, like polyurethane, and assemble a ball following the directions of the prior art, such as the Nesbitt patent or Proudfit patent. To grant a patent to this routine practice retards progress in the art, as already known techniques are no longer available to competitors.

Nor did the inventor believe his polyurethane covers were a breakthrough in the art. Polyurethane covers were not even the inventor's preferred mode of making a three-piece golf ball in 1995, at the time he filed his application. T.Tr. 786:14-22. Spalding, the owner of the patents until it filed for bankruptcy, never used the patents and instead made balls, such as the "Strata," using Surlyn over Surlyn covers. *Id.* at 786:23-789:8; 1015:17-1016:5.

## 2. The Prior Art Generally

Solid-core, multi-layer golf balls have been described by the patent literature since the 1980s. For example, the Nesbitt patent (DX-9) that the inventor sought to mimic discloses a multi-layer ball with a core, an inner cover layer made of a hard Surlyn material, and an outer cover layer made of a soft Surlyn material. *See, e.g., id.*, Fig. 2; col. 3, lines 16-25. Similarly, Proudfit discloses a multi-layer ball with a core, an inner cover layer consisting of a blend of low-acid Surlins (as in the patents-in-suit), and an outer cover consisting of a synthetic balata blend. *See* DX-10 at Tables 5, 6, and 7.

Polyurethane covers have been known for decades, as Mr. Sullivan admitted. T.Tr. 793:24-794:6; *see also* DX-843 at AC0100935. Polyurethanes were discussed extensively as golf ball covers in patents and publications before the patents-in-suit were filed. *See, e.g., id.*;

Molitor '637 (DX-12, col. 18, line 33-col.19, line 10); Wu (DX-13, *passim*); and Molitor '751 (DX-11, col. 2, lines 33-57). These patents taught skilled artisans that polyurethane was a suitable cover material for all types of golf balls.<sup>3</sup>

Additionally, well before 1995, polyurethane had been widely-used as a cover material in commercial golf balls, with both solid and wound cores. The Spalding Executive golf ball, for example, was a solid core golf ball that used a cover with polyurethane and was sold years before Sullivan filed the '293 patent application in 1995. T.Tr. 789:18-790:1.

Acushnet launched its first urethane-covered ball in Japan in 1993. T.Tr. 351:20-352:6. This ball was renamed the Titleist Professional and launched in the U.S. later that year. *Id.* This ball used the "Wu polyurethane" described in DX-13. *Id.* 352:11-25. The cast polyurethane design in this patent was very successful. The Professional would become the No. 1 ball played on the PGA Tour during the 1990s. *Id.* 357:4-10.

### 3. Proudfit With Molitor '751 Or Wu Discloses All Claim Elements

The Proudfit patent discloses all of the elements of the patents-in-suit except for the polyurethane outer cover. Molitor '751 (DX-11) and Wu (DX-13) disclose such a polyurethane cover, and the combination of Proudfit with Molitor '751 or Wu meets all of the elements of the claims-at-issue. Most of this evidence is entirely undisputed. Indeed, even Callaway's expert, Dr. Risen, agreed that the combination of Proudfit with either Molitor '751 or Wu discloses all of the claim elements except for the Shore D hardness of the polyurethane. T.Tr. 1212:11-1215:2. We review the evidence briefly here. *See also* D.I. 217, App. A-D (invalidity charts on file).

---

<sup>3</sup> One 1976 patent noted that polyurethane-covered balls "had cut resistance comparable to Surlyn covered balls and were found to have even greater abrasion resistance than the Surlyn covered balls" and also that polyurethane-covered balls had "click and feel properties ... comparable to those of the balata covered ball." DX-267 at col. 5, lines 15-18, 20-22.

**a. Proudfit '187**

Proudfit discloses a three-piece solid golf ball that includes: a) a core; b) a hard ionomeric inner cover layer made of a blend of low acid ionomer resins; and c) a relatively soft outer cover layer made of balata or a balata-based material. DX-10, Abstract; col. 5, lines 43-52.

Proudfit discloses that the inner cover layer is a blend of low-acid ionomers, namely Surlyn® 8940 and Surlyn® 9910. Col. 8, lines 23-30. These grades of Surlyn are both low-acid ionomer resins containing no more than 16% by weight of an alpha, beta-unsaturated carboxyl acid. DX-1 at col. 8, lines 15-23. Surlyn® 8940 has a Shore D hardness of 65 and Surlyn® 9910 has a Shore D hardness of 64. T.Tr. 585:2-586:1. Therefore, the blend of materials disclosed by Proudfit has a Shore D hardness of 60 or more, measured off the ball. Its hardness would measure even higher “on the ball,” and was never in dispute. *Id.*

Proudfit discloses that the inner cover layer thickness can be “within the range of about 0.0250 to 0.2875 inch.” DX-10 col. 7, lines 37-40. The patent states that the “preferred dimensions are ... an inner layer thickness of 0.037 inch....” *Id.* col. 7:43-44. This preferred thickness falls within the claimed range. Hence, the inner cover limitations of the patents-in-suit are met by Proudfit. *See, e.g., Titanium Metals Corp., v. Banner*, 778 F.2d 775, 782 (Fed. Cir. 1985) (“[W]hen, as by a recitation of ranges or otherwise, a claim covers several compositions, the claim is ‘anticipated’ if *one* of them is in the prior art.”); *Ormco Corp. v. Align Tech., Inc.*, 463 F.3d 1299, 1311 (Fed. Cir. 2006) (overlap creates prima facie obviousness).

With respect to the outer cover thickness, Proudfit discloses that the “preferred dimensions are ... an outer layer thickness of 0.0525 inch....” DX-10 col. 7:40-46. This preferred thickness falls within the claimed range, and thus anticipates the claimed range. However, in the Proudfit patent, this cover material is a blend of synthetic balata (trans-polyisoprene) and polybutadiene. DX-10 col. 7, lines 46-55.

**b. Molitor '751 Or Wu**

Molitor '751 discloses a cover material made of a blend of polyurethane and an ionomer. DX-11, col. 2, lines 38-42. As detailed below, Molitor '751 contains an express teaching that its urethane can be used on a three-piece ball such as Nesbitt or Proudfit. *Id.*, col. 2, lines 7-12. It also teaches that the cover should have an "on the ball" Shore C hardness of 72-76. *Id.* at col. 7, lines 27-39. As described below, this corresponds to a hardness of far less than Shore D 64.

Wu discloses the novel, castable polyurethane used on the *Titleist* Professional ball, and later used on the Pro V1. T.Tr. 350:3-353:14. It is a soft, durable polyurethane that was very successful in the market place. T. Tr. 357:4-10. The patent also contains an express teaching that the Wu polyurethane could be used in place of balata or Surlyn as a cover material. The Wu polyurethane is soft and is measured at a Shore D hardness of 48 to 50 off the ball. *Id.* 493:23-494:3. On the Professional, the polyurethane had an "on the ball" Shore D hardness of 56. *Id.* 467:15-18. It would have a Shore D hardness of less than 64 as the cover of a three-piece ball as well. *Id.* 618:12-23.<sup>4</sup> Thus, the combination of Proudfit with either Molitor '751 or Wu disclosed all of the elements of the patents-in-suit.

**4. Motivation To Combine The References Existed**

The evidence established a motivation and express teaching to combine the polyurethane references (Molitor '751 or Wu) with Proudfit to make the claimed combination.

First, Molitor '751 contains an express teaching to combine its polyurethane cover with a three piece ball, such as Nesbitt or Proudfit. It states that the polyurethane-based cover material should be used on "two-piece" golf balls, DX-11, col. 2, lines 58-64, and further explains:

The phrase "two piece ball" as used herein refers primarily to balls consisting of a molded core and a cover, **but also includes balls having a solid layer**

<sup>4</sup> The Court excluded test ball data (D.I. 217, Ex. 34 at AC0131042) showing that the Wu polyurethane had a hardness of 56.8 when put on the core and inner cover of the Proudfit ball.

**beneath the cover as disclosed, for example, in U.S. Pat. No. 4,431,193 to Nesbitt, and other balls having non-wound cores.**

*Id.* at col. 2:7-12 (emphasis added). This description of “balls having a solid layer beneath the cover” describes Proudfit as well as Nesbitt.

Molitor ‘751 explains that using a cover including soft polyurethane material on such balls results in “playability properties as good or better than balata-covered wound balls” as well as making golf balls that are significantly more durable. *Id.* col. 2:61-68. Thus, Molitor explicitly teaches and motivates the art to apply the polyurethane cover described therein on balls like Proudfit and Nesbitt, namely that have a core, an inner cover layer, and an outer cover layer.

The Wu patent tells the art to use the Wu polyurethane cover material in place of balata covers, such as used on the Proudfit ball. Wu explains that there are advantages to using a polyurethane cover material as a substitute for Surlyn® ionomers or balata in a golf ball cover:

The problem with SURLYN-covered golf balls, however, is that they lack the “click” and “feel” which golfers had become accustomed to with balata. “Click” is the sound when the ball is hit by a golf club and “feel” is the overall sensation imparted to the golfer when the ball is hit.

It has been proposed to employ polyurethane as a cover stock for golf balls because, like SURLYN, it has a relatively low price compared to balata and provides superior cut resistance over balata. However, unlike SURLYN-covered golf balls, polyurethane-covered golf balls can be made to have the “click” and “feel” of balata.

DX-13, col. 1, lines 36-46. Hence, Wu expressly motivates an artisan to use the Wu polyurethane in place of a balata or Surlyn cover.

In addition, as in *KSR*, 127 S. Ct. 1727, the motivation to combine in this case is also found in teachings of the prior art itself. In *KSR*, the Court noted that when a technique had been used to improve one device, and if an artisan would recognize that it would “improve similar devices in the same way, using the technique is obvious ....” *Id.* at 1740.



Here, polyurethane was a well known cover material, used on wound and solid golf balls, and known to have good durability and resilience. T.Tr. 549:12-551:15; 611:19-612:3; DX-843 at AC0100935. Then in 1994 the Wu patent disclosed a castable polyurethane that was especially desirable and was used on the Professional golf ball, the leading tour-played ball in the 1990s. T.Tr. 357:4-10. By April 1995, Kevin Harris of Acushnet asked Ms. Wu to make several balls having the basic construction of the Pro V1 -- a solid center, hard ionomer inner cover, and Wu polyurethane outer cover. DX-830. Acushnet was testing such a ball with professional players in 1996. T.Tr. 362:7-16. In September 1995, Mr. Sullivan at Spalding, also after seeing the Wu patent, asked a technician to make the same type of balls. PX-614; T.Tr. at 782:2-784:8. This work apparently led to the filing of the patent application that led to the patents-in-suit. T.Tr. 782:18-783:8. Callaway too, working independently, had the same idea in 1997, and this led to the Rule 35 ball. *Id.* 1033:14-1034:13; *see* DX-886. Nike/Bridgestone also independently developed a polyurethane-covered three-piece ball called the Nike "Tour Accuracy" or Bridgestone "MC Tour Premium," which was on the market in the late-1990s. *Id.* 242:25-244:2.

Thus, all told, at least four separate companies had the same basic idea described in the Sullivan patents in a short period after the Wu patent was published and the Titleist Professional became successful. All worked independently. None saw or copied the patents-in-suit, which did not issue until years later, beginning in 2001. This close in time and independent adoption further demonstrates the obvious nature of the combination of polyurethane, a soft durable material, with a multi-layer construction. As undisputed evidence, it adds even more to the already compelling case for the obviousness of the patents-in-suit.

### **5. Reasonable Expectation Of Success**

It was simply the exercise of ordinary skill in the art in 1995 to apply polyurethane, such as taught by Wu's 1994 patent, to prior art three-piece balls to achieve the same results --

improved durability over balata and improved spin, click, and feel over Surlyn. *See KSR*, 127 S. Ct. at 1739, T. Tr. at 617:25-618:11. Also, one of ordinary skill would have a reasonable expectation that using polyurethane on a three-piece ball would give one a useful combination and have a Shore D hardness of less than 64, as the Sullivan claims require.

The evidence shows that polyurethane is a soft, flexible material with a Shore D hardness, measured “off the ball” in the 40s or low 50s. T.Tr. 615:17-616:2; *id.* at 467:1-468:14; *id.* at 493:23-494:3. While the hardness may go up some amount measured “on the ball,” polyurethane is sufficiently soft that the resulting “on the ball” hardness would be much less than 64. *Id.* 616:3-618:23. For example, the Wu polyurethane is measured at a Shore D hardness of around 48 Shore D off the ball. *Id.* 615:17-616:2. On the Professional ball, the Wu polyurethane had a Shore D hardness of 56 measured “on the ball.” *Id.* 467:15-18. There is no contrary evidence, and there is no question that in using a polyurethane cover on a three-piece ball, one would have a reasonable expectation of making a cover with a Shore D hardness of less than 64.<sup>5</sup>

---

<sup>5</sup> Callaway elicited testimony from some witnesses to the effect that the golf ball art was an “unpredictable” art and that one has to try a combination to gauge its results. T.Tr. 941:18-942:1. The jury was entitled to credit this testimony as a general statement of golf ball design. But such “unpredictability” is of no moment on the question of combining polyurethane with a three piece ball. As to the combination itself, the motivation to combine is expressly taught in art such as Molitor ‘751. In addition, polyurethane was a known cover material, and its selection for an outer cover was a straightforward matter. DX-843 at AC0100934.

Similarly, as to the hardness “on the ball,” there is nothing “unpredictable” about this measurement. Soft materials “off the ball” generally stay soft on the ball. T.Tr. 617:15-24; *see also, e.g., id.* 461:5-465:6; 467:5-7; 467:8-468:19. Knowing the exact hardness on the ball requires only a routine measurement (*e.g., id.* Tr.T. 462:18-469:16; 494:5-495:10; 497:15-25; 500:18-503:1; 970:20-972:5), safely approximated with the knowledge that the hardness will be somewhat harder on the ball than off (*id.* 617:15-24; *e.g., id.,* 461:5-465:6; 467:5-7; 467:8-469:16). This is not at all “unpredictable.”

While some aspects of golf ball design may be unpredictable, that gnomie utterance has no pertinence to the combination of polyurethane on a three-piece ball as claimed in these patents.



Similarly, it was the exercise of ordinary skill (and typical) to develop golf balls to achieve a Shore D hardness of less than 64. Prior art golf balls produced for the professional market were routinely designed to have a Shore D hardness of well below 64. T.Tr. 461:5-20; 464:22-469:7. A relatively soft outer cover was what was expected by the professional golfer, (*id.* 461:7-25; 462:10-14; 464:25-469:16; 237:23-238:2); it was no invention to produce a cover having the hardness value in a range already used and demanded by golfers.<sup>6</sup>

#### 6. Polyurethane Shore D Hardness “On The Ball”

The only limitation of the prior art disputed by Callaway was whether the prior art taught that the polyurethane cover material had a Shore D hardness of less than 64, measured “on the ball.” T. Tr.at 1212:11-1215:2. Significantly, however, Callaway offered **no evidence** that the “on the ball” hardness was in fact greater than 64. Rather, it merely questioned whether a hardness less than 64 Shore D was disclosed by the prior art, or whether a *specific* value from any conversion of Shore C to Shore D could be known with absolute certainty.

A reasonable juror could reach only one conclusion on this point -- namely that the Molitor ‘751 patent taught that the Shore C hardness “on the ball” should be in the range of 72-76, and that this range taught an “on the ball” hardness in a range less than 64 Shore D. Without dispute, Molitor ‘751 states that the preferred hardness for the polyurethane cover material is 72-76, Shore C, and that the content of the cover can be modified slightly to maintain the required Shore C hardness on the ball. DX-11, Col. 7, lines 25-43. Further, without dispute, hardness

---

<sup>6</sup> Thus, even if one assumes, contrary to the evidence, that an “on the ball” hardness less than Shore D 64 was not knowable directly from the prior art references, the combinations of Proudfit with Molitor ‘751 or Wu nonetheless render the patents obvious under *KSR*. See, e.g., *Leapfrog Enters. v. Fisher-Price, Inc.*, 485 F.3d 1157, 1162 (Fed. Cir. 2007) (while the combination argued lacked a reader, a reader was well-known and not uniquely challenging to implement, and thus the patent was obvious); *In re Icon Health & Fitness, Inc.*, 496 F.3d 1374, 1382 (Fed. Cir. 2007) (“[W]e do not ignore the modifications that one skilled in the art would make to a device borrowed from the prior art.”).

comparison charts used by ordinary artisans show that a hardness measurement in the 72-76 range, Shore C, is equivalent to a measurement on the Shore D scale in a range well less than 64.

While Callaway challenged whether the Shore C range of 72-76 of Molitor amounted to a Shore D hardness of less than 64, the substantial evidence of record proved otherwise. Dr. Risen, Callaway's expert witness and consultant, was of the view that "you can't make such a conversion." T.Tr. 1162:3-18. The evidence conclusively rebuts this conclusion—viz:

- The ASTM, the standards body that promulgates the Shore C and D standards, publishes "comparison charts" that allow users to compare values on the Shore C and D scales. (PX-804). A copy of the comparison chart is set forth below:

Type A	10	20	30	40	50	60	70	80	90	100
Type B	10	20	30	40	50	60	70	80	90	100
Type C	10	20	30	40	50	60	70	80	90	100
Type D	10	20	30	40	50	60	70	80	90	100
Type DO	10	20	30	40	50	60	70	80	90	100
Type O	10	20	30	40	50	60	70	80	90	100
Type OO	10	20	30	40	50	60	70	80	90	100

- As the chart and accompanying text explain, no simple, linear relation exists between Shore C and D measurements and a direct conversion from C to D cannot be done with the chart. But the comparison charts do show an approximate relation between the scales. A Shore C of 72-76 compares to a Shore D in the 50s, and certainly less than 60 and less than 64 on the chart. While we may not know if 72C "converts" exactly to 50D or 51D, an artisan knew from the chart that the range 72-76C would be less than 60 Shore D.
- During the prosecution of the '873 Patent, Callaway used one of these comparison charts to argue that Shore C values in the specification could be "converted" to Shore D values as claimed in the claims. PX-8 at CW0309061. Clearly, one skilled in the art would understand that such a comparison could be made, as Callaway did so itself in order to get the patents in the first instance.<sup>7</sup>

<sup>7</sup> Callaway's very misleading trial argument that the PTO did not accept this argument is belied by the facts. T.Tr. 1238:23-1241:4. The record shows that the PTO maintained its rejection under 35 U.S.C. § 112 not because the C to D conversion could not be made, but because the specification did not support the entire range of the claims (i.e., it did not disclose hardnesses for the *entire range* up to 64 Shore D, but only to 45, to which 65 Shore C corresponds). This is a point completely unrelated to the Shore C to D conversion. PX-8 at CW0309065. The PTO rejected these claims because they were too broad given their modest disclosures -- not because the Shore C values did not disclose a Shore D value less than 64.

- The patents-in-suit correlate Shore C to Shore D in several places. The “Summary of the Invention” section states that polyurethane has “a Shore D hardness of about 45 (i.e., Shore C hardness of about 65).” *E.g.*, DX-1, Col. 3, lines 53-54. Thus, by reading the patents themselves one learns that a Shore C of 65 is a Shore D of about 45. Again, by looking at the comparison charts one sees that a slightly higher Shore C of 72-76 will be much less than Shore D 64. Table 9 of the patent contains similar data.
- Dr. Statz, and the inventor, Mr. Sullivan, both testified from their experience that a Shore C of 72-76 was much less than a Shore D of 64. T.Tr. 601:7-602:3; *id.* 802:20-803:17.
- Dr. Risen’s patents showed materials having Shore C measurements in the 70s that were converted to Shore D measurements of much less than 64, often to values in the high-40s on the Shore D scale, which is consistent with the patents-in-suit, the comparison charts, and the testimony of Dr. Statz and Mr. Sullivan. *E.g.* DX-1108 table 27.

**There is no contrary evidence.** Callaway offered no evidence that a Shore C measurement of 72-76 could correspond to a Shore D measurement greater than 64. It argued only that a direct “conversion” could not be done. The evidence showed irrefutably, however, that a comparison could be done, and that artisans did use such comparison charts to compare Shore C and Shore D measurements. T.Tr. at 601:7-19.<sup>8</sup>

Every element of the claims-in-suit is present in the combination of Proudfit’s three-piece golf ball with either Molitor ‘751 or Wu. As a result, the patents are invalid as obvious.

#### **7. The Asserted Claims Are Invalid Over The Wilson Ultra Tour Balata Ball In View Of Molitor Or Wu**

Judgment of invalidity as a matter of law should also be granted with respect to the Wilson Ultra Tour Balata in view of either the Molitor ‘751 or Wu patents. Acushnet proved with ample clear and convincing evidence that the Wilson Ultra Tour Balata ball that was on sale in 1993 (DX-145.3) had all of the features of the asserted claims with the exception of a polyurethane outer cover. T.Tr. at 339:14-21; 340:20-23; 341:10-345:13; 497:15-498:2; 499:5-

---

<sup>8</sup> Of course, the Court excluded actual measurements of the hardness of Molitor’s polyurethane which showed that the hardness was indeed less than 64. D.I. 217, Ex. 34 at AC0131042; D.I. 362. Nonetheless, the evidence in the record supports no other conclusion.

11; 500:6-25; 502:1-503:1; 507:22-508:22; 528:18-25; 532:1-533:22; DX-1030; DX-68 at AC0072945; DX-1044; DX-1033; DX-1035; DX26.1. This evidence included testimony (including that of the inventor of the Wilson ball, Mr. Proudfit), contemporaneous testing documents, and recent testing documents. Callaway did not dispute any of this evidence, nor did it offer any contrary evidence. In addition, Dr. Statz testified that it would be obvious to use the polyurethane of Molitor '751 or Wu as the outer cover of the Wilson Ultra Tour Balata ball itself (as distinct from the Proudfit patent). T.Tr. 594:13-595:24; 619:5-8. Dr. Risen did not address these prior art combinations in his testimony. Indeed, he could not do so, since his report contained no opinions with respect to these combinations, as he confirmed in his deposition. Ex. 1, Risen Tr. at 243:25-244:9; 16:14-17. Since the evidence and opinions offered by Acushnet with respect to these combinations were wholly uncontroverted, and they establish clearly and convincingly the obviousness of the asserted claims, judgment as a matter of law is appropriate.

#### **D. The PTO Did Not Consider All The Evidence In This Trial**

Contrary to the arguments plaintiff made to the jury, the evidence was much more detailed and complete than the record before the PTO during the initial examination. As a result, the rationale for applying a presumption of validity is diminished. *See KSR*, 127 S. Ct. at 1745.

Plaintiff argued that the key prior art references, Proudfit, Wu, and Molitor '751 were before the PTO during the prosecution of the Sullivan patents. While this is true so far as it goes, it overlooks many factors. First, Sullivan removed Proudfit as prior art with an improper declaration in the '585 application. DX-27 at CW0300437-442, 449. Moreover, the PTO did not have before it the information on the hardness of the Proudfit inner cover layers, nor the fact that the inner layers were low acid ionomers. While Proudfit discloses the brand of Surlyn used in the inner layer, the applicant never submitted data sheets or other information that would allow the PTO to understand the relevance of the Proudfit patent, and in particular to let the PTO

know that Proudfit disclosed a low acid inner cover with a Shore D harness greater than 60D. In fact, Spalding likely misled the Examiner about Proudfit's inner cover, arguing erroneously that Proudfit "does not disclose an inner cover layer with a carboxylic acid." PX-8 at CW 0309032.

Likewise, while the patents-in-suit mention the Molitor '751 patent in their specification (e.g., DX-1, Col. 5, lines 13-15), the applicant never told the PTO that Molitor discloses a polyurethane cover or that it contained an express teaching to combine polyurethane with the three-piece Nesbitt ball. Indeed, the citation of Molitor '751 in the specification, as teaching that soft covers allow accomplished golfers to impart spin to the ball, seems intended to discourage the examiner from reading the reference.

Also, the real world evidence of the Wilson Ultra Tour Balata and Professional golf balls was not before the PTO, nor was the evidence of multiple, near simultaneous development of polyurethane covered three-piece balls by four independent groups. T.Tr. 614:3-25. In all these respects, the Court heard much more evidence bearing on this issue than did the PTO.

#### **E. Secondary Considerations Do Not Save The Sullivan Patents**

The evidence demonstrated that the *Titleist* Pro V1 was a very successful product. Callaway asserted that this success was objective evidence that the patents-in-suit are non-obvious, both because of how successful the ball was and because the success was unexpected. These secondary considerations, Callaway maintained, demonstrate nonobviousness.

While the existence or not of so called "secondary considerations" is a question of fact, the weight to be accorded these secondary considerations is part of the ultimate determination of obviousness as a matter of law. *Graham v. John Deere & Co.*, 383 U.S. 1, 35-36 (1966); *Dystar GmbH v. C.H. Patrick*, 464 F.3d 1356, 1371 (Fed. Cir. 2006). In this case, the Court should accord the secondary consideration evidence little or no weight. In all events, the secondary considerations do not save the patents in suit from the conclusion that they are obvious.

# 1. Law Of Secondary Considerations

In *Graham v. John Deere & Co.*, the Supreme Court addressed for the first time the standard for obviousness under 35 U.S.C. § 103. In focusing on what it called “secondary considerations” relating to non-obviousness, the Court stated:

Such secondary considerations as commercial success, long felt but unsolved needs, failure of others, etc. might be utilized to give light to the circumstances surrounding the origin of the subject matter sought to be patented. As indicia of obviousness or non-obviousness, these inquiries may have relevancy.

383 U.S. at 17-18.

One of the patents in *Graham* covered a spray nozzle used on aerosol containers. The patentee argued that the invention was a great commercial success, that the patentee had succeeded where others failed to make the invention, and that these facts support patentability. *Id.* at 35. The Court noted that these “legal inferences” or “subtests” for obviousness may be helpful in certain cases. *Id.* at 35-36. However, in *Graham*, the great commercial success could not overcome the fact that the prior art was too close and the patented idea was obvious. Hence, the Supreme Court held the patent invalid, despite the commercial success.

Similarly, in *Anderson's-Black Rock, Inc. v. Pavement Salvage, Co.*, 396 U.S. 57 (1969), the Supreme Court recognized that secondary considerations cannot convert an obvious idea into a patentable one. *Anderson's-Black Rock*, like this case, involved a combination of two known elements -- a radiant heater and a paving machine -- that had no unexpected results but functioned in combination just as a heater and paving machine would be expected to function. Despite the enormous success of the invention, the patent was still found invalid. *Id.* at 62-63.

Since *Anderson's-Black Rock*, Federal Circuit cases have followed the principle that secondary considerations cannot save a patent that is clearly obvious in light of the prior art. *See, e.g., In re Inland Steel*, 265 F.3d 1354, 1366 (objective indicia of non-obviousness were



“insufficient to overcome the strong prima facie obviousness case”); *Sandt Tech, Ltd. v. Resco Metal and Plastics Corp.*, 264 F.3d 1344 (Fed. Cir. 2001) (secondary considerations, including commercial success, could not overcome obviousness). *See also KSR*, 127 S. Ct. at 1745.

Furthermore, the patentee must establish a nexus between a claimed invention and any secondary considerations before they can be given weight. *Pentec, Inc. v. Graphic Controls Corp.*, 776 F.2d 309, 315 (Fed. Cir. 1985). In other words, there must be some connection between the commercial success and the claims of the patent, before the commercial success can be considered probative of whether the patent is non-obvious. *Demaco Corp. v. F. Von Langsdorff Licensing Ltd*, 851 F.2d 1387, 1392 (Fed. Cir. 1988).

Where the patentee cannot establish such a nexus, the alleged secondary consideration is given little or no weight. For example, the commercial success of a product sponsored by the preexisting market leader is of limited probative value, as the success of then products is likely attributable to brand reputation. *See Pentec*, 776 F.2d at 316 (“Because GC was clearly the market leader well before the introduction of [the product covered by the patent], its sales figures cannot be given controlling weight ... in this case on the question of obviousness.”). *See also Schwinn Bicycle Co. v. Goodyear Tire & Rubber Co.*, 444 F.2d 295, 300 (9th Cir. 1970) (same). This is especially true when the commercial success of a new product results largely from the cannibalization of sales of the market leader’s previous products. *See McNeil-PPC, Inc. v. Perrigo Co.*, 516 F. Supp. 2d 238, 254 (S.D.N.Y. 2007).

Finally, when a commercially successful product is covered by multiple patents, it makes it very difficult to attribute commercial success to any one of those patents. *See id.* at 254-55 (finding no nexus between commercial success and asserted patent where patented product was covered by three different patents).

## 2. Commercial Success

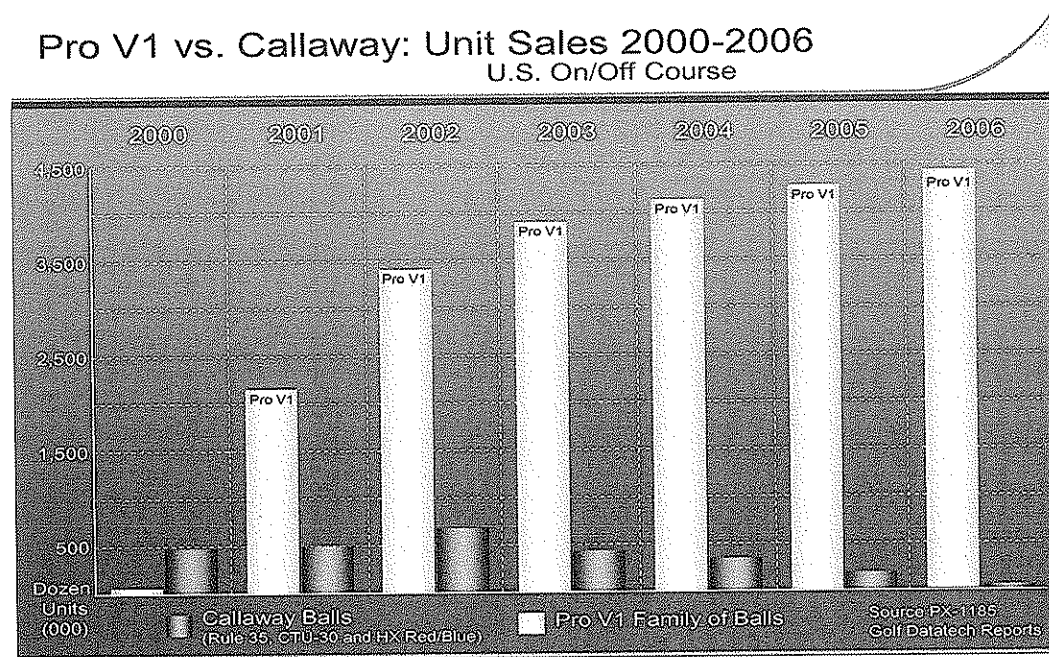
The commercial success of the Pro V1 does not establish that claims at issue are non-obvious for three compelling reasons. First, the prior art is too close and the obviousness too clear for any secondary considerations evidence to change the result. Second, the required nexus is not present; plaintiff proved only that the Pro V1 was a success, not that this success was due in any quantifiable way to the use of the patents as opposed to existing ideas in the art, or other technology or patents. Third, it is undisputed that many other factors unrelated to technology and performance played a major role in the success of the Pro V1. Hence, the legal inference of validity that plaintiff seeks to draw from the Pro V1 success is not warranted.

First, the evidence of obviousness in this case, discussed above, is compelling. Secondary considerations, even if present, cannot save a clearly invalid patent, as the Supreme Court makes clear in *Graham v. John Deere* and *Anderson v. Black Rock*.

Second, the absence of a nexus between the success of the Pro V1 and anything novel in the Sullivan patents further precludes the inference of non-obviousness that plaintiff seeks to draw. The core of the problem with Callaway's commercial success argument is that the patent claims are overbroad (and hence invalid). Putting polyurethane on a three-piece ball was not even a new idea (Molitor taught it), much less the critical ingredient in commercial success. Many balls had polyurethane covers. Some, such as the Pro V1, succeeded. Some, like the Callaway Rule 35, Callaway's own commercial embodiment, "struggled" and failed outright.

For example, the data from PX-1185 compares the sales of the Pro V1 to the combined sales of **all** the Callaway balls that ever practiced the Sullivan patents. The evidence shows that the Pro V1 was vastly more successful than all of the Callaway balls combined. As all of the balls on this chart practiced at least one of the patents-in-suit, it seems self-evident that the success of the Pro V1 is due to factors other than those patents.





In addition, Nike and Bridgestone also introduced three-piece, solid core balls with polyurethane covers to the market, and the Nike ball (the Tour Accuracy) was even adopted by Tiger Woods. T.Tr. 251:8-251:18. Despite his support, these balls still had only limited success on tour and in the market. *Id.* 244:15-245:21. Once again, the evidence suggests that the success of the Pro V1 is due to factors other than practicing the invention. If Spalding and Callaway truly believed that practicing the claims of the Sullivan patents was the reason the Pro V1 was successful, one wonders why Spalding never chose to use this claimed technology in its products, and why Callaway has since abandoned it completely.

The evidence of contemporaneous, independent adoption of the same basic idea by other companies is strong evidence of obviousness. Callaway (Rule 35), Nike (Tour Accuracy), Bridgestone (Precept Tour Premium), and Titleist (Pro V1) all introduced polyurethane covered, multi-layer solid construction balls in the market before the patents-in-suit even issued.<sup>9</sup>

<sup>9</sup> The Callaway Rule 35 was introduced in early 2000. T.Tr. 244:3-244:7. The Bridgestone MC Tour Premium was introduced in October 1999. *Id.* 242:22-243:9.

None of these companies copied or appropriated the patents to make their commercial products. Indeed, Titleist had been working on a solid construction ball with a urethane cover as early as 1995, many years before the Pro VI was launched, and all of that work was done without any knowledge of the patents-in-suit. T.Tr. 367:24-368:21; DX-830. The fact that four companies launched a solid construction ball with a urethane multi-layer cover at about the same time, and all well before the patents-in-suit even issued, strongly suggests the patents are invalid. *See, e.g., Monarch Knitting Mach. Corp. v. Sulzer Morat GmbH*, 139 F.3d 877, 883-84 (Fed. Cir. 1998) (considering contemporaneous invention by others in obviousness analysis).

In addition, the actual construction of the Pro V1 is nowhere disclosed in the Sullivan patents. The patents claim broadly any polyurethane and any low acid ionomers. The patents claim broadly ranges of hardnesses (greater than 60, less than 64) and thicknesses of the covers (outer covers can be as small as 0.010 inches (which is thinner than the dimples of most balls) to 0.070 inches (more than twice the size of the Pro V1 cover)). As Mr. Yagley and others testified, small changes in design can have a large influence on the final commercial product. T.Tr. 1038:5-1039:9. Moreover, Mr. Yagley showed that many vastly different balls (over 3000) can use the claimed technology, many having poor, undesirable playing characteristics. *Id.* 1036:10-1038-9. All of this work thus falls within the claims of the Sullivan patents. Hence, the broad, very general disclosure of these patents in no way discloses the actual construction of the Pro V1.

The Pro VI design possesses many attributes that are not even remotely suggested by the disclosure of the patents-in-suit. It combines a very thin inner cover with a super thin (0.030") veneer outer layer of castable, Wu polyurethane. T.Tr. 361:8-24. The patents do not teach this combination. Instead, they claim broad, general ranges of thicknesses.

The claims also omit many features important to the Pro V1, such as size of the core and the castable polyurethane cover material patented by Acushnet. Because the ranges in the patent claims are both broad in some respects, and at the same time omit important features of the Pro V1, it is not possible to attribute the success of the Pro V1 to the patents in suit. *See Joy Techs., Inc. v. Manbeck*, 751 F. Supp. 225, 229-30 (D.D.C. 1990) (“The claims are broader in scope than the objective evidence [of non-obviousness] if a limitation or element recited in the claim is broader than the limitation or element in the objective evidence ... or if the objective evidence ... contains limitations or elements not recited in the claims (citing *White v. Jeffrey Mining Mach. Co.*, 723 F.2d 1553, 1559 (Fed. Cir. 1983); *In re Fenn*, 639 F.2d 762, 765 (CCPA 1981).).

Finally, the evidence established that many factors other than the patents-in-suit led to the success of the Pro V1. Other factors, such as brand loyalty, Titleist’s leading position in the market, and external market forces also contributed greatly to the success of the Pro V1. These other factors further diminish any connection between the Pro V1’s success and the patents.

For example, the Pro V1 is sold under the Acushnet premier brand Titleist. As Callaway’s own personnel testified, Titleist’s Pro V1 success is due in large part to its brand reputation, tour acceptance, greater distribution and penetration, and are in many more pro shops. T.Tr. at 897:4-25; 1073:11-1074:11. Titleist’s mission has long been to be the leading brand of the golf professional and the golf pro shop because this represents and reinforces Titleist’s reputation for premium quality and performance. *Id.* 221:18-227:20. In the golf ball market, brand is one of the most important factors affecting the commercial success of a golf ball. *Id.* 892:17-893:1. Spalding also recognized the power inherent in the Titleist brand and identified it as one of Titleist’s key strengths. *Id.* 871:4-872:7.

Titleist balls, of various constructions, have been the most played ball at the U.S. Open each year for decades. T.Tr. 224:9-227:20. For the past 25 years, Titleist has been played by the majority of professional players on the U.S. PGA Tour and more than all other golf balls combined. *Id.* Professional golfers have always preferred Titleist balls (of many different constructions) by a wide margin over other balls. Titleist's strong market position, and golfers' allegiance to brands rather than technology, further attenuates Callaway's claim of commercial success as an indicia of non-obviousness. T. Tr. 891:14-892:6; 896:7-898:13.

In addition, external market forces clearly played an important role in the adoption of solid construction, urethane covered golf balls. In 1999 Tiger Woods switched to a solid, three-piece polyurethane Nike golf ball. He won nine tournaments in 2000. Mr. Woods' use of this ball almost certainly sparked an interest in solid construction golf balls. *Id.* 251:8-18. Several other factors also contributed to this shift in the type of ball sought by tour professionals. Newer and improved golf equipment such as oversized metal woods and titanium drivers allowed golfers to hit the ball farther with acceptable spin off the tee. Additionally, golfer's today are physically stronger and have the power to strike the ball with high club speeds, and thus benefit from a distance-oriented ball. *Id.* at 249:22-251:2.

Indeed, Callaway's own marketing personnel have testified that there are many factors that have been primary driving forces behind the commercial success of the Pro VI other than the performance of the ball itself, including the factors set forth above. T.Tr. 1074:11:-1075:2. This further demonstrates the futility of any effort to ascribe the success of the Pro VI and similar balls to the patents-in-suit.

#### **F. Grant Of JMOL Invalidating The Sullivan Patents Is Proper**

Clear and convincing evidence demonstrates that the Sullivan patents are invalid. The combination of the Proudfit and Molitor '751 or Proudfit and Wu references, for example,

disclose every element of the claims; the motivation to combine the references exists, and the use of polyurethane on a three piece ball was shown to be the exercise of routine skill in the art.

The Supreme Court's analysis of the obviousness question in *KSR* is directly on point with the facts in this case. In *KSR*, the Supreme Court held that summary judgment of obviousness was appropriate where the claims constituted no more than a combination of old elements in a predictable way to yield predictable results. "The combination of familiar elements according to known methods is likely to be obvious when it does no more than yield predictable results." *KSR*, 127 S. Ct. at 1739. See also *Leapfrog Enters.*, 485 F.3d at 1162; *Pharmastem Therapeutics*, 491 F.3d at 1359-65; *Pfizer, Inc. v. Apotex, Inc.*, 480 F.3d 1348, 1364-71 (Fed. Cir. 2007); *Dystar*, 464 F.3d at 1371; *Frisket, Inc. v. RealNetworks, Inc.*, 2007 499 F.Supp. 2d 1145, 1147-49 (N.D. Cal. 2007).

Like in *KSR*, the patents-in-suit do no more than combine familiar elements (a three-piece solid construction golf ball and a polyurethane cover) to yield predictable results. The combination is suggested explicitly in the prior art and requires nothing more than routine skill. "[I]f a technique has been used to improve one device, and a person of ordinary skill in the art would recognize that it would improve similar devices in the same way, using the technique is obvious unless its actual application is beyond his or her skill." *KSR*, 127 S. Ct. at 1740. Here, both Wu and Molitor '751 provide conclusive evidence that a ordinary artisan would know to use a polyurethane cover to replace the balata or ionomer outer cover layer of a three-piece solid construction golf ball. Similarly, as discussed above, the prior art shows that it was known that tour-played golf balls were soft (less than 64). T.Tr. 461:17-462:14; *id.* at 465:4-468:19.

In this case, a grant of judgment as a matter of law that the claims at issue are invalid is proper. The jury found one claim invalid. The evidence before the Court demonstrates that the



patents are invalid. There are no material facts that are disputed or where unique deference is due the jury verdict. What is at issue in this case is the legal question of whether the patents are invalid based on a weighing of all the relevant facts. The Court conducts this inquiry as a matter of law, and should find the claims at issue are invalid as obvious.

In addition, the Court may give due consideration to the PTO's actions in connection with the patents-in-suit. The Federal Circuit has stated that a district court, in addressing patent invalidity, should give regard to a PTO reexamination proceeding as part of the evidence bearing on the validity of the patent. *See Custom Accessories, Inc. v. Jeffrey-Allan Indus., Inc.*, 807 F.2d 955, 961 (Fed. Cir. 1986) (district court failed to "give any credence to the PTO reexamination proceeding"); *Pfizer, Inc.*, 480 F.3d at 1360 (basis of an "examiner's initial finding of prima facie obviousness of an issued patent" is a consideration "the trial court must consider in context of the totality of the evidence 'in determining whether the party asserting invalidity has met its statutory burden ....'" (quoting *Fromson v. Advance Offset Plate*, 755 F.2d 1549, 1555 (Fed. Cir. 1985) (examination proceedings are "evidence the court must consider")). A case in point is *Fresenius Medical Care Holdings v. Baxter Int'l, Inc.*, wherein the district court was urged in summary judgment proceedings to ignore both pending reexamination proceedings and a final Board decision of the PTO in a related application to the patents-in-suit. 2006 WL 1330003 (N.D. Cal. May 15, 2006). The district court rejected such argument, determining this evidence relevant and admissible on the question of validity of the patents at issue. *Id.* at \*4.

Here, at least two different patent examiners have found the patents-in-suit to be invalid during the pending reexaminations, over the same prior art that was before the jury. Additionally, as required during *inter partes* reexamination, these Examiners conferred with two other Examiners prior to issuing each office action. MPEP § 2660 IV. The other two Examiners also

signed-on to these office actions. *See, e.g.* Ex. 2 ('873 reexam) at 170. The record in those proceedings is voluminous, and attests to the care and expertise the Patent Examiners have given to this work. *See* D.I. 185 Exs. A-D; D.I. 118, Exs. 1-4; D.I. 328 Ex. 1 & Ex. 2 (make exhibit of latest '873 action). While these actions are not final, it would be a mistake, Acushnet submits, not to give due consideration to the fact that the PTO has consistently found these patents to be invalid during the reexaminations over the same prior art. The actions of this body, charged by Congress with responsibility and expertise in these matters, tend to confirm the result proven in this Court, namely that the claims at issue are invalid.

Likewise, the Court may note the final, unappealed January 2004 decision of the Patent Office Board of Appeals in *Ex parte Sullivan*. D.I. 217, Ex. 41. There the Board of Appeals rejected as obvious over Nesbitt in view of Wu claims nearly the same as those in the claims at issue here. Callaway sought such claims as part of a continuation application for the '873 patent. *See* Ex. 3 (U.S. P.T.O. Patent Continuity Data). The PTO Board stated:

[T]he [1994] teachings of Wu clearly would have made it obvious at the time the invention ... to a person of ordinary skill in the art to have modified Nesbitt's golf ball by using polyurethane as the outer cover material to achieve the expected benefits therefrom taught by Wu (i.e., to have the "click" and "feel" of balata; improved shear resistance and cut resistance; durability; and resiliency). Thus, it would have been obvious to one skilled in the art to have modified Nesbitt's three-piece golf ball having a spherical core, an inner cover layer of type 1605 Surlyn and an outer cover layer type of 1855 Surlyn by replacing the type 1855 Surlyn in the outer cover layer with polyurethane as suggested and taught by Wu.

D.I. 217, Ex. 41 at 11(emphasis added); *id.* at 8-9. Here as well, the Board of Appeals' decision supports the combination of the Wu polyurethane reference with the references showing a three-piece ball, such as Nesbitt and Proudfit, and also supports the obviousness of the patents-in-suit.

#### **G. The Claims Are Invalid Under The "Off The Ball" Construction**

In its claim construction ruling (D.I. 345), the Court ruled that while there was support in the specification for measurements made both "on" and "off" the ball, the "semantics" of the

claim supported an “on the ball” construction, as the claim specified the hardness of a layer, rather than the material of which the cover layer was made.

Acushnet respectfully suggests that this construction was in error. First, the construction the Court adopted simply cannot be correct. Other claims, such as claim 4 of the ‘293 Patent, similarly claim “a cover layer” having a modulus within a specified range. (DX-1 at Col. 24, lines 29-33). However, it is undisputed that the flexural modulus of a cover layer material cannot be measured “on the ball.” D.I. 207 at 14-16. Hence, the reference to a “cover layer” in this claim must mean a reference to the material of which the cover layer is made. As the term “cover layer” must be construed consistently in each claim, *see CVI/Beta Ventures v. Tura LP*, 112 F.3d 1146, 1159 (Fed. Cir. 1997), the intrinsic evidence of the claims themselves dictate that the Shore D measurements refer to the properties of the cover layer material, an “off the ball” measurement.

Likewise, the Court’s approach ignores a plain specification definition for the hardness measurement. The specification states that Shore D measurements are made using the ASTM D-2240 standard. DX-1, col. 16, lines 49-50. This is a measurement “off the ball,” and on a plaque. The specification definition should control under established precedent. *See, e.g., Acumed LLC v. Stryker Corp.*, 483 F.3d 800, 805 (Fed. Cir. 2007) (“[T]he specification may reveal a special definition given to a claim term by the patentee that differs from the meaning it would otherwise possess. In such cases, the inventor’s lexicography governs.”)

We respectfully submit that the evidence at trial demonstrated another flaw in the “on the ball” construction. As the evidence at trial demonstrates, the “on the ball” hardness measurement often is dependent on the thickness of the cover layer. T. Tr. 615:22-617:2. In particular, at cover thicknesses of less than 0.050”, the hardness measurement will depend on the thickness of the cover, as a thinner cover causes the measurement to be effected by the substrate of the ball. T. Tr.



615:15-616:20. As the patents cover a broad range of thicknesses, from 0.01 to 0.07” for the outer cover, for example, the reference to an “on the ball” hardness is simply ambiguous. This ambiguity is avoided by construing the measurement, as defined in the patent, to be the measurement of the material hardness of a plaque, made off the ball. The plaque measurement is fixed, and is not dependent on cover thickness. Based on this additional evidence, the Court should revise its claim construction and find the hardness should be measured “off the ball.”

If the Court corrects the claim construction to allow the Shore D hardness of various layers to be measured “off the ball,” then judgment as a matter of law for Acushnet is required. As with other evidence, the Shore D measurements of all the various materials “off the ball” is undisputed and all meet the claims at issue. The dispute about whether a Shore C measurement on the ball can be converted to a Shore D value is no longer an issue, as the “off the ball” hardnesses of the Molitor ‘751 and Wu polyurethanes are not in dispute and meet the limitations at issue.

Either way, Acushnet maintains that it should be granted judgment as a matter of law that the claims at issue are invalid. In the alternative, if the Court believes it would be more appropriate to grant a new trial under the corrected claim construction, Acushnet so moves.

### **III. IN THE ALTERNATIVE TO JUDGMENT AS A MATTER OF LAW, ACUSHNET SHOULD BE GRANTED A NEW TRIAL ON THE VERDICTS AGAINST IT, ON SEVERAL ALTERNATIVE GROUNDS**

For each of the claims for which the jury found in Callaway’s favor, Acushnet seeks a new trial as an alternative to judgment as a matter of law.<sup>10</sup> The jury’s verdicts in favor of Callaway are against the great weight of the evidence presented at trial, and are furthermore

---

<sup>10</sup> The claims on which Acushnet seeks a new trial are claims 1 and 4 of the ‘293 patent, 1-3 of the ‘156 patent, 5 of the ‘130 patent, and 1 and 3 of the ‘873 patent. The jury’s verdict on claim 5 of the ‘293 patent is unchallenged and should stand. Callaway did not renew within ten days of the judgment its Rule 50(a) motion, nor request a new trial, on this claim.

inconsistent with the verdict on claim 5 of the '293 patent. Several erroneous evidentiary rulings, which substantially prejudiced Acushnet, also justify a new trial.

Rule 59 of the Federal Rules of Civil Procedure allows a court, in its discretion, to grant a new trial "on all or some of the issues" in an action in which there has been a trial jury "for any reason for which new trial has heretofore been granted in an action at law in Federal Court...." Fed. R. Civ. P. 59(a). *See Allied Chem. Corp. v. Daihatsu, Inc.*, 449 U.S. 33, 36 (1980). New trials are commonly granted in at least the following circumstances: (1) where the verdict is against the clear weight of the evidence, and a miscarriage of justice must be prevented; (2) where the verdict is facially inconsistent, and cannot reasonably be reconciled based on the evidence heard by the jury; (3) where improper arguments unfairly influenced the verdict outcome; and/or (4) where substantial (i.e., prejudicial) errors were made in the admission or rejection of evidence. *See generally Lightning Lube, Inc. v. Witco Corp.*, 802 F. Supp. 1180, 1186 (D.N.J. 1992), *aff'd*, 4 F.3d 1153 (3d Cir. 1993); *Genzyme Corp. v. Atrium Med. Corp.*, 315 F. Supp. 2d 552, 562 (D. Del. 2004).

**A. The Verdicts Were Irreconcilably Inconsistent And Against The Clear Weight Of Evidence; A New Trial Should Be Granted For Either Or Both Of These Reasons**

**1. The Verdicts For Callaway Cannot Be Reconciled With The Verdict For Acushnet**

Inconsistent jury verdicts warrant a new trial. *See, e.g., Malley-Duff & Assoc. v. Crown Life Ins. Co.*, 734 F.2d 133, 145-46 (3d Cir. 1984); *Repola v. Morebark Indus.*, 934 F.2d 483, 485 (3d Cir. 1991) (remanding for a new trial where the verdict was "inconsistent and utterly irreconcilable"). While a court should endeavor to interpret a jury's findings as consistent whenever possible, a verdict that is inexplicably inconsistent, or reflects confusion on the part of the jury, should be set aside and a new trial granted.

If a jury returns an apparently inconsistent verdict, “the district court [should first] carefully review the different portions of the jury’s verdict for a means to reconcile them” on any reasonable theory consistent with the evidence and jury instructions. *Mycogen Plant Sci., Inc. v. Monsanto Co.*, 243 F.3d 1316, 1326 (Fed. Cir. 2001).<sup>11</sup> If, however, after undertaking a careful review, there exists no “legal basis, supported by the evidence” upon which the inconsistent verdict might reasonably be based, a new trial should be given. *GNB Battery Tech., Inc. v. Exide Corp.*, 876 F. Supp. 605, 608, 610 (D. Del. 1995) (citations omitted). On the other hand, a jury verdict is *not* reconcilable by reference to theories or evidence not advanced, or by reference to speculative arguments or wild inferences. *See Malley-Duff*, 734 F.2d at 145-46; *ID Sec. Sys. Can. v. Checkpoint Sys.*, 249 F. Supp. 2d 622, 652 (E.D. Pa. 2004).

Here, the verdict of invalidity on claim 5 of the ‘293 patent demonstrates that Acushnet proved by clear and convincing evidence that this patent claim is obvious over prior art. It is impossible to reconcile the validity verdicts in favor of Callaway with the invalidity verdict on claim 5 of the ‘293 patent in favor of Acushnet. Secondary considerations were not advanced on a claim by claim basis. **Moreover, the claims-in-suit are not patentably distinguishable.**

In fact, in the original examinations, PX-5 to PX-8, the PTO issued double patenting rejections on all of these patent claims. The ‘130, ‘156 and ‘873 patent claims were rejected for double patenting in view of the ‘293 patent claims. *See* PX-5 at CW0308327-28; PX-6 at CW0308062; DX-8 at CW0309017. To get the patents despite the double patenting, Spalding agreed to file terminal disclaimers in each case. PX-5 to PX-8. A rejection for double patenting means that the Patent Office determined that the claims were not patentably distinct from claims of the earlier patent or applications. *See In re Longi*, 759 F.2d 887, 893 (Fed. Cir. 1985).

---

<sup>11</sup> Resolution of an actual or apparent inconsistency may be achieved, for example, by properly granting a JMOL motion for Acushnet as to the verdicts in Callaway’s favor, thus resolving the inconsistency. *See Mycogen*, 243 F.3d at 1326.

The opposing verdicts on claims 4 and 5 of the '293 patent are fundamentally irreconcilable as a matter of law. Since claim 5 of the '293 is dependent from claim 4, claim 4 must be invalid if claim 5 is invalid. *See, e.g., Cabinet Vision v. Cabnetware*, 1998 U.S. Dist. LEXIS 22763, at \*25 (S.D. Cal. Sept. 30, 1998) *aff'd in relevant part, rev'd in part*, 2000 U.S. App. LEXIS 2030, at \*13-14 (Fed. Cir. Feb. 14, 2000) (verdict that rendered broader independent claim valid, but dependent claim invalid, was inherently inconsistent). *See also generally Hartness Int'l, Inc. v. Simplimatic Eng'g Co.*, 819 F.2d 1100, 1108 (Fed. Cir. 1987).

Similarly, claim 3 of the '873 patent, which the jury upheld, has nearly the identical scope as claim 5 of the '293 patent that was found invalid. There are only minor, semantical distinctions between these two claims, such as that claim 3 of the '873 patent applies the term "disposed on" versus "molded over" and does not use "about" in reference to "at least 60" Shore D hardness. None of the differences between these two claims was at issue in the trial.

In the same vein is claim 5 of the '130 patent. It is again broader than claim 5 of the '293 and virtually the same as claim 4 of that patent. No legally sufficient and plausible basis can reconcile this verdict with the verdict on claim 5 of the '293 patent. All of these verdicts, seemingly distinguishing the obviousness of claim 5 of the '293, over that of claim 4 of the '293 patent, claim 3 of the '873 patent, and claim 5 of the '130 patent, cannot be allowed to stand.

The remaining claims (claim 1 of the '293 patent, claims 1-3 of the '156 patent, and claim 1 of the '873 patent) differ from the above claims only by claiming a *blend* of ionomers for the inner cover. However, this cannot matter to the jury's determination of obviousness. Proudfit discloses such a blend of ionomers. *See* DX-10, col. 8, lines 23-30; *see supra* at 7-9. In fact, Callaway's expert never disputed that Proudfit taught an inner cover layer blend that satisfies the ionomer elements of all of the claims; nor did he opine that there was a patentable

difference between some of the claims over the body of prior art due to the presence or absence of a blend of ionomers. *E.g.*, T.Tr. 1158:7-59:8; 1212:11-1213:17. Thus, there is no legal basis, supported by the evidence and arguments, upon which the differing verdicts on the “blend of ionomer” claims can be reconciled.

In short, if claim 5 of the ‘293 patent is obvious, then the other claims must also be obvious. None of the evidence can support a scenario that rationally, and within the bounds of a proper obviousness determination, reconciles the verdicts. The inconsistencies in the jury’s determination warrant a new trial.

## 2. The Great Weight Of The Evidence Stands Against The Verdict, And Manifest Injustice Calls For A New Trial

A court may also grant a new trial if the verdict is against the great weight of evidence, and if it would result in a manifestly unjust verdict to allow it to stand. This is just the situation.

A new trial can be granted even when judgment as a matter of law on the issue of the claim would be inappropriate. *See, e.g., Fineman v. Armstrong World Indus.*, 980 F.2d 171, 211 (3d Cir. 1992); *Roebuck v. Drexel Univ.*, 852 F.2d 715, 735 (3d Cir. 1988). “Unlike a JMOL motion, the court need not view the evidence in the light most favorable to the verdict winner ....” *Syngenta Seeds, Inc. v. Monsanto Co.*, 404 F. Supp. 2d 594, 600 (D. Del. 2005), *aff’d*, 231 Fed. Appx. 954 (Fed. Cir. 2007). While in some cases the evidence may even logically present a number of inferences supporting the verdict, if the great weight of it falls the other way, the court does not abuse its discretion to grant a new trial. *See Fineman*, 980 F.2d at 211.

In the context of a jury’s *factual* findings, the cases of course teach that the district court must proceed cautiously in granting a new trial based on manifest injustice, so as not to substitute its judgment for the jury’s independent evaluation of the facts. Nevertheless, “[w]here a trial is long and complicated and deals with subject matter not lying within the ordinary

knowledge of jurors a verdict should be scrutinized more closely by the trial judge than is necessary where the litigation deals with material which is familiar and simple ....” *Lind v. Schenley Indus.*, 278 F.2d 79, 90-91 (3d Cir. 1960) (identifying a patent case as example).

Here, judgment as a matter of law should be granted, as briefed above. *See supra* at 2-29. However, even if that motion is not granted, the evidence reviewed on that motion should indicate to the Court that the verdicts in Callaway’s favor are against the clear weight of evidence and manifestly unjust. To allow these claims to stand on the present jury verdict, when especially, in view of the irreconcilable inconsistencies cited above it appears that the jury was confused, arbitrary, or hopelessly conflicted, would allow a serious miscarriage of justice.

Further, the ultimate question of obviousness is a question of law. *Richardson-Vicks, Inc. v. Upjohn Co.*, 122 F.3d 1476, 1479 (Fed. Cir. 1997). Hence, the Court must also be careful not to “abdicate [its] role as the ultimate decision maker on the question of obviousness.” *Id.* In this case, the content of the prior art, the scope of the patent claims, and the level of ordinary skill in the art were not in material dispute. The evidence favored a legal finding of obviousness on every claim tried to the jury, not merely claim 5 of the ‘293 patent. If judgment as a matter of law is not appropriate, it is at least appropriate for the Court to grant a new trial.

**B. A New Trial Should Be Granted At Which The Test Balls May Be Admitted Into Evidence**

A new trial is warranted based on the improper exclusion of the golf balls Acushnet made from the teachings of the prior art combinations Dr. Statz relied on. *See* D.I. 346 & 362. The Court erred by precluding Acushnet from introducing this clearly relevant evidence. The Court further erred when it essentially provided a road map for Callaway to avoid the admission of this evidence while cross examining Dr. Statz. These errors were highly prejudicial to Acushnet.



The inquiry in evaluating a motion for new trial on the basis of evidentiary errors requires that the Court determine: “(1) whether an error was in fact committed, and (2) whether [it] was so prejudicial that denial of a new trial would be ‘inconsistent with substantial justice.’” *Finch v. Hercules Inc.*, 941 F. Supp. 1395, 1414 (D. Del. 1996). With respect to the second prong of this, a new trial should be granted on an erroneous evidentiary ruling unless “it is ‘highly probable’ that [it] did not affect [the objecting party’s] substantial rights.” *McQueeney v. Wilmington Trust Co.*, 779 F.2d 916, 924 (3d Cir. 1985) (holding standard same in civil cases as in criminal cases).

### **1. The Excluded Test Ball Evidence Was Relevant**

The excluded ball test evidence was clearly relevant. The claim construction required Acushnet to prove that the polyurethanes of the asserted prior art combinations would have a hardness less than 64 Shore D, as measured on the ball. The test balls proved exactly this. Indeed, it is hard to imagine more probative evidence of what the Shore D hardness of the combinations would be than measurements of balls made according to those combinations. Even Callaway’s expert, Dr. Risen, admitted that the best way to determine what the Shore D hardness of a ball disclosed in the prior art would be is to “make the ball and measure it.” D.I. 297, Ex. 1, Risen Dep. Tr. at 133:23-134:8. Acushnet’s substantial rights were prejudiced by not being able to offer this most relevant evidence.

The issue of the outer cover Shore D hardness of the prior art combinations was the single most important and disputed issue in the case. The test evidence would have demonstrated that the combinations of prior art that Acushnet asserts yielded balls whose outer cover Shore D hardness is well under the claimed 64 Shore D. The tests demonstrated, for example, that balls made with the cover of the Molitor ‘751 patent and the core and inner cover of the Proudfit patent (as suggested by Molitor ‘751) had an average outer cover Shore D hardness of 51.2 measured “on the ball.” D.I. 217, Ex. 23 ¶ 113; D.I. 217, Ex. 30 at ¶ 33, *id.*, Ex.



34 at AC0131412. Similarly, the Wu cover applied to Proudfit yielded an average outer cover Shore D hardness of 56.8 measured “on the ball.” D.I. 217, Ex. 23 ¶ 106; D.I. 217, Ex. 30 at ¶ 33, *id.*, Ex. 34 at AC0131412.

The test balls could have come into evidence through percipient witnesses, namely Messrs. Dalton and Galipeau. Mr. Dalton directly supervised every aspect of the creation of the golf balls, and could have testified that they in fact were made according to the specifications set forth in the prior art references. D.I. 265, Ex. 63 ¶¶ 4-9. Mr. Galipeau, who works at the testing lab PTLI, directly supervised the measurements that were made on the balls, which resulted in the test report. *Id.* at ¶¶ 11-14; Ex. 6., Galipeau Dep. Tr. 1-45.

Given the focus on the issue of the Shore D hardness of the outer cover of the prior art combinations, as measured on the ball, the exclusion of Acushnet’s evidence of precisely those measurements was highly prejudicial. *See also Blancha v. Raymark Indus.*, 972 F.2d 507, 516 (3d Cir. 1992) (“Evidence should be excluded under Rule 403 only sparingly since the evidence excluded is concededly probative. The balance under the rule should be struck in favor of admissibility.”).

## 2. The Court Erred In Excluding The Test Ball Evidence

Initially, the Court’s exclusion of Dr. MacKnight’s testimony seemed to be based on a misperception of his role with respect to Acushnet’s invalidity case. It appears that the Court was under the impression that Acushnet would offer the testing evidence without the supporting testimony of an expert, such as Dr. Statz, who could explain the relevance of the evidence. *See* Pretrial Conf. Tr. 34:15-20; 36:24-37:4. But Dr. Statz had discussed in his report each prior art combination he relied on for his opinion that the patents are invalid, and why the test results for those combinations were relevant. *See, e.g.* D.I. 217, Ex. 23 ¶¶ 84, 93, 102, 106 and 113 (discussing obviousness of claim 1 of the ‘293 patent with reference to the testing of the balls).

The Court's conclusion that that the test balls were created at the behest of lawyers is not a persuasive reason to exclude the evidence. As evident from the face of Dr. MacKnight's declaration, the testing evidence generated by him was initially created and submitted to the Patent Office for purposes of the reexamination shortly before Dr. Statz's expert report was served in this case. D.I. 217, Ex. 30 at ¶ 1. Lawyers are often involved in the preparation of tests submitted to the PTO. In addition, the balls created were based on those combinations of prior art argued to the PTO in the reexamination and that Dr. Statz intended to rely on in his expert report. Lawyers are often involved in the coordination of testing between two experts.

Dr. MacKnight was retained for his expertise in testing, to assure that the test data submitted to the PTO and to this Court was done properly and fairly. He was not retained as an invalidity expert, despite what the Court may have thought. It was not proper to exclude his testimony because he was not also the invalidity expert in the case, and hence he did not select the balls to tested. His expertise in testing and supervision of the testing would have been helpful and relevant. That he was directed (by counsel or by anyone else for that matter) as to what balls to test is utterly immaterial to his ability to properly oversee the testing and to opine as to the appropriateness of the testing.

The only case relied on by Callaway for the exclusion of the test golf balls, *Wesley Jessen Corp. v. Bausch & Laumb, Inc.*, was not on point. 209 F. Supp.2d 348 (D. Del. 2002). There the testing in question (which was not even excluded) departed from and was inconsistent with the teachings of the prior art. *Id.* at 373, 393. Here, however, the combination balls were made by following the directions of the prior art combinations that Dr. Statz addresses.

The evidence here is similar to that admitted in *Young Dental Mfg. Co., Inc. v. Q3 Special Prods., Inc.*, 112 F.3d 1137 (Fed. Cir. 1997). There, the Federal Circuit affirmed the

admissibility of a model of prior art over objections that it did not accurately represent the prior art. *Id.* at 1145. The Federal Circuit noted that any such arguments could be developed in cross-examination, and that the probative value of the evidence was not outweighed by potential prejudice. *Id.* at 1146. Similarly here, Acushnet's testing evidence should have been admitted.

Even if Dr. MacKnight's testimony itself was properly excluded, the test balls themselves were independently admissible and should have been admitted. As set forth above, the test balls, no matter how or why created, are highly probative evidence of what the Shore D hardness of the polyurethane covers of Molitor '751 and Wu would have been when applied to the Proudfit ball.

Any Rule 403 concerns over prejudice or confusion that might have resulted from the admission of the test balls could have been cured in any number of ways. For instance, Acushnet offered that the balls themselves need not be shown to the jury, to avoid any Callaway's concern that the jury might think the balls actually existed in 1995. T. Tr. at 753:21-22 ("If it helps to not actually display the balls, we could do that.") In addition, curative instructions could have been given, explaining that the balls are not prior art and were not in existence in 1995, but instead were created as test evidence for this case. In addition, direct examination and cross examination would have reduced any potential for confusion or prejudice. *See also Coleman v. Home Depo, Inc.*, 306 F.3d 1333, 1343-44 (3d Cir. 2002) ("There is a "strong presumption that relevant evidence should be admitted." Under Rule 403, "probative value of evidence must be 'substantially outweighed' by the problems in admitting the evidence. As a result, evidence that is highly probative is exceptionally difficult to exclude.").

The Court's order, conditioning the admissibility of the test balls on Callaway's cross-examination of Dr. Statz, was a further prejudicial error. Since the balls were relevant evidence, their admissibility should not have been conditioned on Callaway's cross-examination of Dr.

Statz. Acushnet had the burden of proof at trial. It should have been allowed to use the test ball evidence to meet its burden. Yet the Court put the issue in Callaway's hands, and provided a road map for Callaway to follow to ensure the exclusion of this evidence. The ultimate result was materially prejudicial. Dr. Statz relied on the test ball evidence to support his conclusions regarding obviousness under an "on the ball" construction. It was error and prejudicial to deny Dr. Statz the right to rely on materials cited in his expert report and independently admissible.

The Court in effect ruled that Acushnet may only prove obviousness by showing the "on the ball" Shore D hardness of prior art combinations, but at the same time excluded the most probative evidence of what that "on the ball" hardness would be. Those rulings were in error, and caused Acushnet extreme prejudice, that could be addressed via a new trial.

### **C. Other Evidentiary Errors And Resulting Prejudice To Acushnet Justify A New Trial**

The prejudicial exclusion of the test ball evidence was magnified by other evidentiary errors. These additional errors -- and Callaway's further ability to exploit them -- provide still additional reasons for a new trial. "[T]he combination of several errors may require reversal even though each error by itself would have been harmless." *Collins v. Wayne Corp.*, 621 F.2d 777, 786 n.6 (5th Cir. 1980); *see also Malek v. Federal Ins. Co.*, 994 F.2d 49, 55 (2d Cir. 1993). Likewise, the extent of argument based on or in reliance on tainted rulings may also factor into whether an evidentiary ruling was prejudicial. *See Genzyme Corp.*, 315 F. Supp. 2d at 561 n.5.

#### **1. Acushnet Was Prejudiced By The Court's Erroneous Admission Of Evidence Regarding Acushnet's Veneer Concept And Hebert Patent, And Related Errors**

The Court erred in admitting testimony about the Acushnet Hebert Patent (PX-17), the Hebert Invention record, and testimony that Acushnet employees "believed they invented something" with the Veneer concept. Such subjective testimony did great violence to the jury's

understanding and application of the person of ordinary skill in the art standard and prejudiced Acushnet because the jury could not thereafter properly apply the obviousness test.

Obviousness must be determined from the objective perspective of the hypothetical person of ordinary skill in the art. *See, e.g., KSR*, 127 S. Ct. at 1742 (“The question is not whether the combination was obvious to the patentee but whether the combination was obvious to a person with ordinary skill in the art.”); *Life Techs., Inc. v. Clontech Lab, Inc.*, 224 F.3d 1320, 1325 (Fed. Cir. 2000). Thus, the question of whether the inventors of the Hebert patent, a patent not in suit and having different claims and a different specification, thought they “invented something” was utterly irrelevant to this case and it was error to admit it. *See, e.g., Key Tech., Inc., v. Simco/Ramic Corp.*, 137 F.R.D. 322, 324-25 (D. Or. 1991) (“Whether or not [the infringer] subjectively believed that any product of [patentee] was patentable is irrelevant to the [infringer’s] defense that the patents of [patentee] are not valid.”).

Further, even assuming that subjective testimony regarding obviousness is appropriate (which it is not), the statements of Messrs. Morgan and Hebert regarding their belief as to the novelty of the veneer concept merely applied a layperson’s understanding of that term. Obviously, neither Messrs. Morgan nor Hebert were offered or qualified as experts in this case. Despite his extensive experience in making golf balls, the Court stated, in the presence of the jury, that Mr. Morgan was not a person of ordinary skill in the art (T. Tr. at 456:2-8). Then, despite denigrating Mr. Morgan’s experience, the Court nevertheless allowed Callaway to elicit testimony as to what Mr. Morgan thought was novel or obvious:

Q: And you thought your Veneer concept was different and new because it had a solid-core three-piece construction with an ionomer inner cover and a polyurethane, a cast polyurethane outer cover. Right?

A: A thin cast-polyurethane cover of the new composition, yes.

T. Tr. at 439:12-15. Neither of these witnesses are attorneys or patent law experts, nor otherwise qualified to render an expert opinion as to the patentability, novelty, or non-obviousness of an invention. Thereafter, Callaway argued that these individuals belief that they “thought they invented something” was relevant to the obviousness of the Sullivan patents.

Further still, the differences between the veneer concept, the Hebert patent, and the patents-in-suit were never explained to the jury. In fact, the Court prohibited this. The claims of the Hebert patent differ from those of the patents-in-suit, and thus cover different inventions. The jury did not learn this. Callaway would try to sidestep this issue by arguing that the fact that Acushnet thought the Hebert *concept* was patentable is enough to show that the Sullivan patents are non-obvious. But it is black letter law that concepts are not patentable. *See In re Comiskey*, 499 F.3d 1365, 1377 (Fed. Cir. 2007). Not only do such arguments about so-called “patentable concepts” fail to demonstrate that the Hebert patent is comparable to the Sullivan patents, they provide another example of the dangers inherent to having an inventor testify regarding patentability -- the inventors clearly did not understand that mere concepts are never patentable and that the claims define the patentable aspects of an invention. *See, e.g., In re Van Geuns*, 988 F.2d 1181 (Fed. Cir. 1993). Thus, Callaway’s argument that the claims can be ignored in any comparison between the veneer concept and the Sullivan patents is wrong, and directly contrary to the Supreme Court’s *KSR* decision. *See* 127 S. Ct. at 1742 (“[w]hat matters is the objective reach of the claim. If the claim extends to what is obvious, it is invalid under § 103”). Thus, the only way to make a legally meaningful comparison is by performing a detailed claim analysis.

The differences between the Hebert patent claims and those of the patents-in-suit are significant. The Sullivan claims, which only require that the cover “comprise polyurethane,” are so broad as to encompass any of the hundreds of types of polyurethane in any amount



whatsoever, including thermoplastic polyurethanes. The Hebert claims are limited specifically to cast outer cover layers, which would exclude thermoplastic polyurethanes. *See, e.g.*, PX-17, claim 1. Callaway's own witnesses noted the importance of the distinction between thermoplastic and cast urethane covers. T. Tr. 1051:13-1052:10. The Sullivan claims, however, make no such distinction. Similarly, the inner cover layer of Hebert requires that the flexural modulus of the inner cover layer be so high that many claims are limited to high-acid ionomers (PX-17, claims 4-6). The Sullivan claims, on the other hand, all explicitly claim low-acid ionomers. To explain these differences to a jury would have required a detailed analysis and time-consuming satellite litigation of exactly the type the Court indicated it would not allow. Hence, Callaway's arguments created the appearance of a similarity between the Hebert patent and the patents-in-suit that Acushnet could not effectively rebut.

The prejudice to Acushnet created by Callaway's arguments was compounded by repeated reference to the Hebert patent during Callaway's opening in ways not allowed by the Court at trial. No fewer than 7 slides from Callaway's opening statement featured the Hebert patent. *See* Ex. 4, slides 31, 32, 33, 39, 40, 56, and 57. For example, in its argument, Callaway referred to the license Callaway took to the Hebert patent, suggesting that Callaway had acted appropriately by taking the license, while Acushnet was now acting improperly. T.Tr. at 186:10-187:2; Opening Statement, slide 39. However, this license was never offered or admitted at trial. Such statements considerably prejudiced Acushnet. Similarly, Callaway featured the Hebert patent, and arguments that Acushnet employees believed that they had "invented something" extensively in its closing argument as well. T.Tr. at 1341:2-22; 1342:18-1344:15.

The prejudice to Acushnet was further amplified by the Court's decision not to allow Acushnet to introduce that Callaway [REDACTED] -- a patent actually in suit

-- at the time it was owned by Spalding. *See* D.I. 373; *see, e.g.*, D.I. 217, Ex. 21 (Callaway letter to Spalding asserting patent invalid [REDACTED]). If the jury heard that Callaway licensed the Hebert patent, because they thought there was an invention, the jury should have also heard that Callaway [REDACTED], because Callaway thought it invalid.

The Hebert evidence, which constituted an excessive amount of Callaway's case, was irrelevant. Furthermore, the way it was handled during the trial proceedings greatly prejudiced Acushnet and prevented the jury from properly applying the test for obviousness. A new trial is thus warranted in which the evidence of the Hebert patent and the subjective beliefs of inventors as to whether they "invented something" should be excluded.

## **2. Dr. Risen's Direct Exceeded The Scope Of His Report**

Dr. Risen's testimony on direct examination went outside the scope of his expert report and Acushnet timely objected pursuant to the Court's procedures. Since Acushnet was unduly prejudiced by Dr. Risen's undisclosed testimony, a new trial is warranted.

Specifically, Dr. Risen testified that there was no motivation to combine Nesbitt with Molitor '751 or Proudfit with Molitor '751. T.Tr. at 1171:4-9 ("I don't know of any motivation to do it"); 1168:13-1170:4 ("I don't know of any motivation to combine it or try it"). These opinions, however, are nowhere set forth in Dr. Risen's expert report, submitted on July 6, 2007. Acushnet objected during Dr. Risen's testimony to these questions. *Id.* 1171:10; 1168:17-21.

Dr. Risen's opinions with respect to the combination of Nesbitt in view of Molitor '751 are set forth in paragraphs 133-156 of his report. At his deposition, he testified that these paragraphs set forth *all* of his opinions as to why he thinks that Nesbitt in view of Molitor '751 does not render the asserted claims obvious. Ex. 1, Risen Tr. at 209:10-14. His opinions with respect to that combination consisted entirely of alleged technical distinctions between the

combination and the asserted claims, rather than an opinion that someone of ordinary skill would not have been motivated to combine the references. *See* Ex. 5, Risen Rep. ¶¶ 133-156.

Similarly, Dr. Risen did not state in his report that there would be no motivation to combine Proudfit with Molitor '751. Dr. Risen's opinions with respect to that combination are set forth in paragraphs 179-189 of his report. *See* Ex. 1, Risen Tr. at 225:3-10. Again, Dr. Risen's opinions with respect to that combination consisted entirely of alleged technical distinctions between the combination and the asserted claims; he does not opine that the motivation to combine the references was absent in the art. *See* Ex. 5 ¶¶ 179-189.

It was not surprising that Dr. Risen did not contest that there was motivation to combine these references in his report. Molitor '751 teaches these combinations on the face of the patent. In his deposition, Dr. Risen *agreed* that the reference to Nesbitt in Molitor '751 was a suggestion to use the cover of Molitor '751 on the ball of Nesbitt. Ex. 1, Risen Tr. at 81:20-82:5. It was not until Dr. Risen took the stand (after Dr. Statz had already testified) that he first expressed the opinion that there was a lack of motivation to combine these references.

Since the opinions Dr. Risen expressed were not in his expert report, the jury should not have heard them. "As noted in the case law of this jurisdiction, the testimony of expert witnesses is limited to the information contained in their expert reports." *Honeywell Int'l, Inc. v. Universal Avionics Sys. Corp.*, 289 F. Supp.2d 493, 500 (D. Del. 2003). The procedure for dealing with objections to expert testimony outside the scope is set forth under the Court's guidelines:

If a party objects on the record to an expert's Testimony based on claims that the testimony falls beyond the scope of his/her expert report, such objections shall be addressed during post-trial proceedings. If the court determines that the expert's testimony was impermissibly broad, the party proffering such testimony may be sanctioned, inter alia, by having to assume the costs for a new trial.

Guidelines for Civil Trials Before Judge Robinson at 3.

Dr. Risen's testimony outside the scope of his report warrants a new trial here. A fundamental question presented to the jury was whether the asserted claims were obvious over certain combinations of prior art. Dr. Risen was permitted to testify, for the first time and after Acushnet had already presented Dr. Statz's testimony, that certain of those combinations were not motivated in the art. Had Acushnet known that Dr. Risen would present such testimony, it would have focused on the motivation issue during Dr. Statz's direct examination, and would have been prepared to cross-examine Dr. Risen on that topic. Indeed, as set forth above, Dr. Risen's inconsistent statements in his deposition (where he admitted that Molitor '751 explicitly suggests a combination with Nesbitt) could have been employed to impeach Dr. Risen's opinion if Acushnet had advance notice, as was required under the Federal Rules.

It is this very purpose that underlies the requirement that an expert's testimony cannot exceed the scope of his or her report. "The purpose of this disclosure rule is to give opposing parties a reasonable opportunity to prepare for effective cross examination or to secure their own expert witness." *McMillan v. Weeks Marine, Inc.*, 478 F. Supp.2d 651, 659-660 (D. Del. 2007) (citing Advisory Committee Notes to Fed. R. Civ. P. 26(a)(2)(B)).

Since Acushnet has demonstrated that Dr. Risen's motivation-related testimony exceeded the scope of his expert report and it was unduly prejudiced, a new trial is warranted.

### **3. The Court Erred In Excluding *Ex Parte Sullivan***

The Court erred in preventing Acushnet from introducing the patent prosecution history of an important continuing application of the '873 patent -- in particular, the *Ex Parte Sullivan*, 2004-0242 (B.P.A.I. 2004) decision. D.I. 217, Ex. 41, identified as DX-15. As discussed above, in *Ex Parte Sullivan*, the Board of Patent Appeals found in a *final* decision that one of skill in the art would have been motivated to combine polyurethane with three-piece golf balls. See D.I. 217, Ex. 41 at 11. Callaway was a party to this decision, and did not appeal from it.

In deciding that Acushnet could not introduce this piece of prosecution history for the jury's consideration, the Court excluded highly germane evidence of the PTO's considered view of pertinent prior art and the motivation to combine a three-piece ball, such as Nesbitt with Wu, in a related application. At the trial, Callaway disputed whether one of skill would be motivated to combine polyurethane and three-piece references. *E.g.*, T.Tr. 1141-46, 1149-1153, 1170. The excluded decision shows that the PTO found that exact combination was motivated and proper. *See supra* 9-11. Thus, it was error and prejudicial to exclude the evidence.

Conclusions, findings and opinions in government reports are admissible, if relevant, absent a showing of untrustworthiness. *See Beech Aircraft Corp. v. Rainey*, 488 U.S. 153, 161-70 (1988); *Chandler v. Roudebush*, 425 U.S. 840, 863 n.39 (1976) ("Prior administrative findings made with respect to [a relevant issue in the case] may, of course, be admitted as evidence at a federal-sector trial de novo."); *Knoster v. Ford Motor Co.*, 200 Fed. Appx. 106 (3d Cir. 2006) (findings are "presumed trustworthy" and opposing party "bear[s] the burden of coming forward enough negative factors [to show] that the report should not be admitted"); Fed. R. Evid. 803(8). In the case of the PTO, courts are bound to respect with some deference the PTO's administrative findings, and to give appropriate deference especially to its expertise findings under which it is charged by Congress. *See Dickinson v. Zurko*, 527 U.S. 150, 152 (1999). As observed in *In re Berg*, 320 F.3d 1310, 1315 (Fed. Cir. 2003):

As persons of scientific competence in the fields in which they work, examiners and administrative patent judges on the Board are responsible for making findings, informed by their scientific knowledge, as to the meaning of prior art references to persons of ordinary skill in the art and the motivation those references would provide to such persons. Absent legal error or contrary factual evidence, those findings can establish a prima facie case of obviousness.

Further, as two Federal Circuit judges have each observed, "a reasonable jury may give weight to the examiner's view of [a] reference when deciding whether invalidity has been proved

by clear and convincing evidence.” *Pharmastem*, 491 F.3d at 1371 (J. Newman, dissenting op.). “When the party asserting invalidity relies on references that were considered during examination or reexamination, that party ‘bears the added burden of the deference that is due to a qualified government agency presumed to have done its job.’” *Id.* at 1366 (J. Bryson, majority).

It was error to exclude the PTO’s other determinations in the file history of these patents, particularly where, in the case of *Ex Parte Sullivan*, a final board decision had been reached in a matter in which Callaway had fully participated. A case especially on point, briefed to the Court at trial, is *Loral Fairchild Corp., v. Matsushita Electr. Indus. Co.*, 208 F. Supp. 2d 344 (E.D.N.Y. 2000). Here, Circuit Judge Rader, sitting by designation, concluded that a claim rejection in applications related to the patents-in-suit were admissible in a jury trial on validity.

As in *Loral*, the rejections at issue in *Ex Parte Sullivan* were on claims closely related and similar to the patents-in-suit, and went to an issue in the trial (the obviousness of combining Wu with three-piece golf balls). *See Loral*, 208 F. Supp. 2d at 360. Allowing the evidence would have added substantial weight to Acushnet’s case on Wu’s teachings and a combination of Nesbitt with Wu. As Callaway was quick to remind the jury repeatedly, “to find the claims invalid, there must be clear and convincing evidence that the PTO should not have issued the patent.” Ex. 4 at 26.

The Court’s decision not only affected the evidence actually seen by the jury, but also the jury’s interpretation of the evidence. Drummed in by Callaway from the start of its opening through to its closing argument, the jury’s perception of the PTO’s “blessing” upon the patents-in-suit, as somehow tried-and-true-valid over all of the prior art in the trial, was surely distorted as Callaway took full advantage of the Court’s disposition on this issue. Callaway made these remarks, for example, just a minute into its opening:



Now, you have the patents in front of you, and in deciding that issue it really boils down to something simple: [T]here are three patent examiners who looked at the four patents collectively. Okay? Did those three patent examiners, different people, make a mistake when they looked at exactly the same prior art that Acushnet now says invalidates these patent ... So that's what the validity issue boils down to in this case.

T.Tr. 161:8-17. Callaway went on to feature as many as six slides on this point, featuring the "three patent examiners" who had once passed on the validity of the patents-in-suit. *See* Ex. 4 at 21-26; T.Tr. 181:4-182:25.

Then, at the trial's end, the theme was played again, still longer. *See, e.g.* T.Tr. 1139, 1353-55, 1358-59. Most egregiously, Callaway began the body of its discussion concerning the validity of the patents with this statement:

Now, can the Patent Office make a mistake? Sure. ... We're all human and a mistake could have been made. ***But you have not actually heard from Acushnet. They're not arguing the Patent Office made a mistake. They are just arguing that you should see things their way instead of the way the Patent Office did.***

*Id.* 1339:14-19. As a whole, it is clear that these arguments were designed to suggest repeatedly that the PTO had done its analysis of the prior art correctly when issuing the patents-in-suit. Yet we know that not to be true -- we know that the PTO itself would strongly disagree with Callaway. Acushnet could have rebutted and erased the sting of these lopsided, half-truth arguments if it had been permitted to introduce evidence such as the *Ex Parte Sullivan* decision. The end result of the Court's error was prejudicial, warranting a new trial.

#### **4. The Court Erred In Excluding The Reexamination Files From Evidence**

The reexamination evidence supporting the invalidity of the patents-in-suit, including the file histories of the reexaminations, DX-340 to DX-343 (*see* D.I. 115, Exs. A-D, D.I. 118; Exs. 1-4; D.I. 328, Ex. 1), should have been allowed to be mentioned and admitted in the trial as well, and for many of the same reasons noted above. The Court, in error, did not allow it.

Again, Callaway made the most of the Court's decisions not allowing either or both the Board decision or the reexaminations to be admitted or mentioned. Callaway's opening statement illegitimately *strengthened* a presumption of validity, a strengthening it had no right to impress upon the jury, in view of the PTO's decisions already. *See* T.Tr. 161:6-17; *see also* T.Tr. 181:4-182:25 & Ex. 4 at 21-26. Acushnet filed an overnight objection to this, and asked again that Court consider allowing evidence of the reexamination proceedings and the Board of Patent Appeals decision into the trial. D.I. 379 & 380. The Court did not agree. T.Tr. 257:12-261:1, 354:15-24. In the closing argument, Callaway then took advantage once again. *See* T.Tr. 1139, 1353-55, 1358-59. *See also Fresenius Medical*, 2006 WL 1330003 at \*4 (considering reexaminations and noting that patentee cannot have it both ways: "it cannot be overlooked that, when it suits it, [plaintiff] relies on numerous PTO documents" and "repeatedly refers to the fact that the decisions of the patent examiner are given great deference" and allowed the patents).

**5. If Acushnet Is Not Granted Judgment As A Matter Of Law, As Argued Above, The Court's Erroneous Claim Construction Ruling Warrants At Least A New Trial**

Acushnet has argued respectfully above that the Court should reconsider its "on the ball" claim construction and, in adopting Acushnet's claim construction, grant judgment as a matter of law in Acushnet's favor on all claims-in-suit. *See supra* 5-16. However, should the Court reconsider and reverse its prior claim construction ruling, but for any reason not grant judgment as a matter of law, Acushnet submits that, at a minimum, a new trial is warranted in which the proper "off the ball" claim construction is used. A proper claim construction here would have affected the outcome of the trial, given that one of the central issues before the jury revolved around Callaway questioning whether hardness less than Shore D 64, "on the ball," was disclosed by the prior art. The Court's pre-trial *Markman* ruling, which Acushnet respectfully submits was in error, was thus prejudicial to Acushnet's ability to present its case at trial.

#### IV. OTHER ISSUES

Finally, Acushnet also renews its objections to the Court's denial of Acushnet's Motion for Partial Summary Judgment that Nesbitt incorporates Molitor by Reference (D.I. 348), as a further basis for post-trial relief. As this issue related to validity of the claims tried, the validity of such claims should be determined as a matter of law, or else retried, in view of the prior art reference Nesbitt incorporating Molitor '637. This has been briefed already, and Acushnet will not repeat its arguments here, but refers the Court to its prior briefing. *See* D.I. 217, 238, 265.

Likewise, Acushnet continues to maintain that the Court erred to dismiss on summary judgment and just before trial the issue of invalidity of claims 1-2 of the '130 patent. D.I. 348, 373. Contrary to the Court's decision before trial, a case and controversy must surely still exist in view of the present litigation itself on the '130 patent. Pretrial Conf. Tr. 6:8-9:20. If summary judgment is not given outright on these claims, they should be included in any new trial.

#### V. CONCLUSION

Acushnet respectfully requests that the Court grant JMOL under Rule 50(b) that the claims at issue in this case are invalid as obvious, or in the alternative order a new trial under Rule 59.

POTTER ANDERSON & CORROON LLP

OF COUNSEL:

Joseph P. Lavelle  
Kenneth W. Donnelly  
Brian A. Rosenthal  
HOWREY LLP  
1299 Pennsylvania Ave., N.W.  
Washington, D.C. 20004  
Tel: (202) 783-0800

Dated: January 22, 2008  
Public Version Dated: January 24, 2008  
844252 /30030

By: /s/ David E. Moore  
Richard L. Horwitz (#2246)  
David E. Moore (#3983)  
Hercules Plaza 6th Floor  
1313 N. Market Street  
P.O. Box 951  
Wilmington, DE 19899  
Tel: (302) 984-6000  
[rhorwitz@potteranderson.com](mailto:rhorwitz@potteranderson.com)  
[dmoore@potteranderson.com](mailto:dmoore@potteranderson.com)

*Attorneys for Defendant Acushnet Company*

**IN THE UNITED STATES DISTRICT COURT  
FOR THE DISTRICT OF DELAWARE**

**CERTIFICATE OF SERVICE**

I, David E. Moore, hereby certify that on January 24, 2008, the attached document was electronically filed with the Clerk of the Court using CM/ECF which will send notification to the registered attorney(s) of record that the document has been filed and is available for viewing and downloading.

I hereby certify that on January 24, 2008, I have Electronically Mailed the document to the following person(s):

Thomas L. Halkowski  
Fish & Richardson P.C.  
919 N. Market Street, Suite 1100  
P. O. Box 1114  
Wilmington, DE 19899-1114  
[halkowski@fr.com](mailto:halkowski@fr.com)

Frank E. Scherkenbach  
Fish & Richardson P.C.  
225 Franklin Street  
Boston, MA 02110-2804  
[scherkenbach@fr.com](mailto:scherkenbach@fr.com)

Robert A. Denning  
David S. Shuman  
W. Chad Shear  
Fish & Richardson P.C.  
12290 El Camino Real  
San Diego, CA 92130  
[denning@fr.com](mailto:denning@fr.com)  
[shuman@fr.com](mailto:shuman@fr.com)  
[shear@fr.com](mailto:shear@fr.com)

Jonathan J. Lamberson  
Christina D. Jordan  
Craig R. Compton  
Fish & Richardson P.C.  
500 Arguello Street, Suite 500  
Redwood City, CA 94063  
[lamberson@fr.com](mailto:lamberson@fr.com)  
[cjordan@fr.com](mailto:cjordan@fr.com)  
[compton@fr.com](mailto:compton@fr.com)

/s/ David E. Moore

Richard L. Horwitz  
David E. Moore  
Potter Anderson & Corroon LLP  
Hercules Plaza – Sixth Floor  
1313 North Market Street  
Wilmington, DE 19899-0951  
(302) 984-6000  
[rhorwitz@potteranderson.com](mailto:rhorwitz@potteranderson.com)  
[dmoore@potteranderson.com](mailto:dmoore@potteranderson.com)

# **EXHIBIT 1**

7/20/2007

Callaway Golf Company v. Acushnet Company

William Risen

Page 1

IN THE UNITED STATES DISTRICT COURT  
DISTRICT OF DELAWARE

CALLAWAY GOLF COMPANY,

Plaintiff,

vs.

Civil Action No.  
06-91 (SLR)

ACUSHNET COMPANY,

Defendant.

Boston, Massachusetts  
Friday, July 20, 2007  
Volume I of II

Videotaped Deposition of  
WILLIAM M. RISEN, JR., Ph.D.

The witness was called for examination by  
counsel for the Defendant, pursuant to notice,  
commencing at 9:41 a.m. at the Law Offices of Fish &  
Richardson, P.C., 25 Franklin Street, Boston,  
Massachusetts, before Kimberly A. Smith, Certified  
Realtime Reporter, Registered Diplomate Reporter, and  
Notary Public for the Commonwealth of Massachusetts,  
when were present on behalf of the respective  
parties:

DIGITAL EVIDENCE GROUP

1111 16th Street, N.W., Suite 410

Washington, D.C. 20036

(202) 232-0646



7/20/2007

Callaway Golf Company v. Acushnet Company

William Risen

Page 81

1 disclosed in Nesbitt?

2 A. That sentence that you just read to me  
3 certainly would suggest that. But let me see whether  
4 the context of that is that they are the subject of  
5 his invention.

6 Q. Please take your time and do that.

7 A. I don't see where else the phrase  
8 "two-piece ball" is used --

9 Q. Maybe I can help you.

10 A. -- in the claims. If you can help me, that  
11 would be nice.

12 Q. Sure. It may be in the claims, but if you  
13 go to the previous column, Column 2, on line 61,  
14 Mr. Molitor states, "Two-piece balls made with the  
15 cover of the invention have short iron playability  
16 properties as good as or better than balata-covered  
17 wound balls but are significantly more durable."

18 Do you see that?

19 A. Yes.

20 Q. Does that sentence in combination with the  
21 one on Column 3 that we just read suggest to you that  
22 Mr. Molitor is suggesting using his cover materials  
23 on a three-piece solid construction ball like that  
24 disclosed in Nesbitt?

25 A. I think that's a reasonable interpretation

7/20/2007

Callaway Golf Company v. Acushnet Company

William Risen

Page 82

1 at this stage, yes, um-hum.

2 Q. You wouldn't disagree with that  
3 interpretation?

4 A. No. I'd have to go through it again and  
5 make doubly sure, but it sounds about right.

6 Q. So going back then to the question that I  
7 had earlier, is it fair to say that Mr. Molitor, at  
8 least as of the date of the issuance of this patent  
9 in 1987, had also thought of using polyurethane-based  
10 cover materials as the outer cover material -- Strike  
11 that. I'm going to rephrase that question.

12 Is it fair to say that prior to  
13 Mr. Sullivan's effective filing date, 1995, that  
14 Mr. Molitor had also thought of using a polyurethane-  
15 based cover material as the outer cover layer in a  
16 three-piece solid construction ball?

17 A. I don't know what the "also" refers to  
18 but -- and I'm not sure what you mean by a thermal  
19 plastic or polyurethane-based ball. Some of these  
20 that are contained in his tables and perhaps in the  
21 claims, although at least in the tables are not  
22 necessarily basically polyurethane. They might  
23 comprise it.

24 Q. I've let my language slip a little bit  
25 again. Let me try to be more specific. And let me

7/20/2007

Callaway Golf Company v. Acushnet Company

William Risen

Page 133

1 Q. If a specification describes how to make a  
2 particular material or a particular cover layer and  
3 describes how to make the rest of the golf ball  
4 construction, does the cover layer have an inherent  
5 hardness as measured on the ball?

6 MR. SHUMAN: Objection. Form.

7 THE WITNESS: Any particular material  
8 formed in a particular way with a particular  
9 composition and particular history will have a  
10 measurable hardness, so long as it's a solid.

11 BY MR. ROSENTHAL:

12 Q. Right. And that hardness is inherent to  
13 that particular material made in that particular way,  
14 right?

15 MR. SHUMAN: Objection. Form.

16 THE WITNESS: I'm not sure of the use of  
17 the word "inherent" there. It has a property.

18 BY MR. ROSENTHAL:

19 Q. And if you make a material in that  
20 specified way, that material will necessarily have a  
21 hardness, correct?

22 A. Depends on what "in that specified way"  
23 means. If you mean including putting it on the ball,  
24 for example, so that it develops the same kinds of  
25 stresses and strains and all of that sort of thing,

7/20/2007

Callaway Golf Company v. Acushnet Company

William Risen

Page 134

1 if you do the same experiment twice, you should get  
2 the same answer.

3 Q. So if a patent specification describes the  
4 composition and how to create a cover layer and  
5 describes the rest of the construction of the ball,  
6 will that cover layer necessarily have a particular  
7 hardness?

8 A. I'm not sure that I got all of that.  
9 But if -- You're saying that everything else is  
10 identical, everything is identical between two balls?

11 Q. Um-hum.

12 A. Including their time/temperature history,  
13 their mechanical history, the way in which they were  
14 produced, the composition, the inner core, the outer  
15 core, everything is identical, two balls coming out  
16 of the same machine? They should have essentially  
17 the same measured property, in this case hardness,  
18 if -- within the statistical distribution of such  
19 measurements.

20 Q. You don't believe that you can accurately  
21 predict mathematically what that property is, do you?

22 A. Which property?

23 Q. The property of Shore D hardness of --  
24 Let me ask the full question.

25 If there is such a specification that

7/20/2007

Callaway Golf Company v. Acushnet Company

William Risen

Page 209

1 I wish I could tell you what number it is.

2 Unfortunately I didn't write it down.

3 A. It's 8.

4 Q. Risen Exhibit 8?

5 A. Yes.

6 Q. Could you take that one out. We're going  
7 to discuss your analysis of the Nesbitt plus Molitor  
8 '751, which begins on page 21 of your report.

9 A. Okay.

10 Q. Now, does this section of your report from  
11 paragraphs 133 to 156 set forth all of your opinions  
12 as to why that combination does not render the  
13 asserted claims obvious?

14 A. I believe so.

15 Q. Now, in the '751 patent, we discussed  
16 earlier the reference on Column 3 to the Nesbitt  
17 patent on lines 7 through 12. Do you recall that?

18 A. Yes.

19 Q. Now, you read this as a suggestion to a  
20 person reading this patent to use the cover materials  
21 disclosed in this patent on a ball like the Nesbitt  
22 ball, right?

23 MR. SHUMAN: Objection. Form.

24 THE WITNESS: I don't read it as a  
25 suggestion of any sort. I think he simply said --

7/20/2007

Callaway Golf Company v. Acushnet Company

William Risen

Page 225

1 doesn't render obvious the asserted claims, right?

2 A. I think that's correct.

3 Q. And on page 29 from paragraphs 179 to 189,  
4 those are your opinions as to why the Proudfit plus  
5 Molitor '751 patent doesn't render the asserted  
6 claims obvious, right?

7 A. I'm just looking to see if this is a place  
8 where headings were left out. I'm not sure. Anyway,  
9 that's probably not significant, so yes, that's  
10 right.

11 Q. With respect to the Proudfit plus Molitor  
12 '751 combination, as I read this, the only claim  
13 limitation that you believe is missing from that  
14 combination is the outer cover Shore D hardness being  
15 less than 64, right?

16 A. Well, that's certainly missing. I'm just  
17 looking to see if the cover -- the outer cover  
18 thickness limitations are contained in the sum of  
19 those two. And I would have to -- This is Proudfit  
20 plus --

21 Q. Molitor '751.

22 A. '751. Proudfit. Where's Proudfit?  
23 Proudfit is '187? Yes. Here. I'm not sure that  
24 there's really significant or functional overlap of  
25 the ranges in outer cover thicknesses in Proudfit



7/21/2007

Callaway Golf Company v. Acushnet Company

William Risen

Page 237

IN THE UNITED STATES DISTRICT COURT  
DISTRICT OF DELAWARE

CALLAWAY GOLF COMPANY,

Plaintiff,

vs.

Civil Action No.  
06-91 (SLR)

ACUSHNET COMPANY,

Defendant.

Boston, Massachusetts  
Saturday, July 21, 2007  
Volume II of II

Videotaped Deposition of  
WILLIAM M. RISEN, JR., Ph.D.

The witness was called for examination by  
counsel for the Defendant, pursuant to notice,  
commencing at 9:35 a.m. at the Law Offices of Fish &  
Richardson, P.C., 25 Franklin Street, Boston,  
Massachusetts, before Kimberly A. Smith, Certified  
Realtime Reporter, Registered Diplomate Reporter, and  
Notary Public for the Commonwealth of Massachusetts,  
when were present on behalf of the respective  
parties:

DIGITAL EVIDENCE GROUP

1111 16th Street, N.W., Suite 410

Washington, D.C. 20036

(202) 232-0646

7/21/2007

Callaway Golf Company v. Acushnet Company

William Risen

Page 243

1 I can't tell you exactly the performance changes in  
2 any particular ball, but I'm sure that there are  
3 differences.

4 Q. Generally speaking, are you familiar with  
5 what sort of differences in terms of performance are  
6 achieved by using a dual core?

7 A. Not in detail.

8 Q. I want to resume our discussion of your  
9 expert report. So if you could -- I think it's on  
10 the top of your exhibit list.

11 A. Okay.

12 Q. If you could turn to page 30 of your  
13 report, which is Risen Exhibit 1.

14 A. Okay.

15 Q. Section 7 begins on the bottom of that page  
16 and then continues on. In this section of the report  
17 you discuss the combination of the Wilson Ultra Tour  
18 balata ball and either the Titleist Professional or  
19 the Titleist Professional two-piece, correct?

20 A. Yes.

21 Q. And it's your opinion that the combinations  
22 of these balls do not render any of the asserted  
23 claims obvious?

24 A. Yes.

25 Q. Is there anywhere in your report where you

7/21/2007

Callaway Golf Company v. Acushnet Company

William Risen

Page 244

1 address the combination of the Wilson Ultra Tour  
2 balata ball and the Wu reference or the Wilson Ultra  
3 Tour balata ball and the Molitor '751 reference?

4 A. I don't believe the Wilson Ultra Tour  
5 balata and the Wu reference is discussed. Maybe I'm  
6 mistaken, but I don't think so. And the Wilson Ultra  
7 Tour balata ball and -- What was the other one?

8 Q. Molitor '751.

9 A. I don't believe so.

10 Q. With respect to your discussion in this  
11 Section 7 of your report regarding combinations of  
12 balls, on paragraph 190 on the top of page 31 of your  
13 report --

14 A. Yes.

15 Q. I'm sorry. I pointed you to the wrong  
16 paragraph. Paragraph 193.

17 A. 193.

18 Q. You state that "I also believe...a person  
19 of ordinary skill in the art would not have had any  
20 way of experimentally determining the acid content of  
21 any ionomer or ionomers in the mantle of the Ultra  
22 Tour balata ball."

23 Do you see that?

24 A. I do.

25 Q. You understand it is a requirement --

# EXHIBIT 2



## UNITED STATES PATENT AND TRADEMARK OFFICE

COMMISSIONER FOR PATENTS  
UNITED STATES PATENT AND TRADEMARK OFFICE  
P.O. BOX 1450  
ALEXANDRIA, VA 22313-1450  
www.uspto.gov

CONTROL NO.	FILING DATE	PATENT IN REEXAMINATION	ATTORNEY DOCKET NO.
95/000,123	01/17/06	6,595,873	

DOROTHY P. WHALEN  
FISH & RICHARDSON P.C.  
P.O. BOX 1022  
MINNEAPOLIS, MN 55440-1022

EXAMINER

GELLNER, J.

ART UNIT	PAPER
----------	-------

3993

DATE MAILED:

01/07/08

**INTER PARTES REEXAMINATION  
COMMUNICATION**

BELOW/ATTACHED YOU WILL FIND A COMMUNICATION FROM THE UNITED STATES PATENT AND TRADEMARK OFFICE OFFICIAL(S) IN CHARGE OF THE PRESENT REEXAMINATION PROCEEDING.

**All correspondence** relating to this *inter partes* reexamination proceeding should be directed to the **Central Reexamination Unit** at the mail, FAX, or hand-carry addresses given at the end of this communication.



UNITED STATES PATENT AND TRADEMARK OFFICE

Commissioner for Patents  
United States Patent and Trademark Office  
P.O. Box 1450  
Alexandria, VA 22313-1450  
[www.uspto.gov](http://www.uspto.gov)

**DO NOT USE IN PALM PRINTER**

(THIRD PARTY REQUESTER'S CORRESPONDENCE ADDRESS)

ALAN M. GRIMALDI  
HOWREY LLP  
1299 PENNSYLVANIA AVENUE NW  
WASHINGTON, DC 20004

**Transmittal of Communication to Third Party Requester  
*Inter Partes* Reexamination**

REEXAMINATION CONTROL NUMBER 95/000,123.

PATENT NUMBER 6,595,873.

TECHNOLOGY CENTER 3999.

ART UNIT 3993.

Enclosed is a copy of the latest communication from the United States Patent and Trademark Office in the above-identified reexamination proceeding. 37 CFR 1.903.

Prior to the filing of a Notice of Appeal, each time the patent owner responds to this communication, the third party requester of the *inter partes* reexamination may once file written comments within a period of 30 days from the date of service of the patent owner's response. This 30-day time period is statutory (35 U.S.C. 314(b)(2)), and, as such, it cannot be extended. See also 37 CFR 1.947.

If an *ex parte* reexamination has been merged with the *inter partes* reexamination, no responsive submission by any *ex parte* third party requester is permitted.

**All correspondence** relating to this *inter partes* reexamination proceeding should be directed to the **Central Reexamination Unit** at the mail, FAX, or hand-carry addresses given at the end of the communication enclosed with this transmittal.



**OFFICE ACTION IN INTER PARTES  
REEXAMINATION**

Control No.

95/000,123

Examiner

Jeffrey L. Gellner

Patent Under Reexamination

6595873

Art Unit

3993

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address. --

Responsive to the communication(s) filed by:

Patent Owner on 30 April 2007Third Party(ies) on 30 May 2007**RESPONSE TIMES ARE SET TO EXPIRE AS FOLLOWS:***For Patent Owner's Response:*

2 MONTH(S) from the mailing date of this action. 37 CFR 1.945. EXTENSIONS OF TIME ARE GOVERNED BY 37 CFR 1.956.

*For Third Party Requester's Comments on the Patent Owner Response:*

30 DAYS from the date of service of any patent owner's response. 37 CFR 1.947. NO EXTENSIONS OF TIME ARE PERMITTED. 35 U.S.C. 314(b)(2).

All correspondence relating to this inter partes reexamination proceeding should be directed to the **Central Reexamination Unit** at the mail, FAX, or hand-carry addresses given at the end of this Office action.

This action is not an Action Closing Prosecution under 37 CFR 1.949, nor is it a Right of Appeal Notice under 37 CFR 1.953.

**PART I. THE FOLLOWING ATTACHMENT(S) ARE PART OF THIS ACTION:**

1. ☒ Notice of References Cited by Examiner, PTO-892
2. ☒ Information Disclosure Citation, PTO/SB/08
3. ☐ \_\_\_\_\_

**PART II. SUMMARY OF ACTION:**

- 1a. ☒ Claims 1-6 are subject to reexamination.
- 1b. ☐ Claims \_\_\_\_\_ are not subject to reexamination.
2. ☐ Claims \_\_\_\_\_ have been canceled.
3. ☐ Claims \_\_\_\_\_ are confirmed. [Unamended patent claims]
4. ☐ Claims \_\_\_\_\_ are patentable. [Amended or new claims]
5. ☒ Claims 1-6 are rejected.
6. ☐ Claims \_\_\_\_\_ are objected to.
7. ☐ The drawings filed on \_\_\_\_\_ ☐ are acceptable ☐ are not acceptable.
8. ☐ The drawing correction request filed on \_\_\_\_\_ is: ☐ approved. ☐ disapproved.
9. ☐ Acknowledgment is made of the claim for priority under 35 U.S.C. 119 (a)-(d). The certified copy has:  
☐ been received. ☐ not been received. ☐ been filed in Application/Control No 95000123.
10. ☐ Other \_\_\_\_\_



**Notice of References Cited**

Application/Control No.

95/000,123

Applicant(s)/Patent Under  
Reexamination  
6595873

Examiner

Jeffrey L. Gellner

Art Unit

3993

Page 1 of 1

**U.S. PATENT DOCUMENTS**

*		Document Number Country Code-Number-Kind Code	Date MM-YYYY	Name	Classification
	A	US-			
	B	US-			
	C	US-			
	D	US-			
	E	US-			
	F	US-			
	G	US-			
	H	US-			
	I	US-			
	J	US-			
	K	US-			
	L	US-			
	M	US-			

**FOREIGN PATENT DOCUMENTS**

*		Document Number Country Code-Number-Kind Code	Date MM-YYYY	Country	Name	Classification
	N					
	O					
	P					
	Q					
	R					
	S					
	T					

**NON-PATENT DOCUMENTS**

*		Include as applicable: Author, Title Date, Publisher, Edition or Volume, Pertinent Pages)
	U	In re Hughes, 550 F.2d 1273 (C.C.P.A. 1977).
	V	In re Voss, 557 F.2d 812 (C.C.P.A. 1977).
	W	
	X	

\*A copy of this reference is not being furnished with this Office action. (See MPEP § 707.05(a).)  
Dates in MM-YYYY format are publication dates. Classifications may be US or foreign.

**OFFICE ACTION IN INTER PARTES  
REEXAMINATION**

Control No.

95/000,123

Examiner

Jeffrey L. Gellner

Patent Under Reexamination

6595873

Art Unit

3993

-- The **MAILING DATE** of this communication appears on the cover sheet with the correspondence address. --

Responsive to the communication(s) filed by:

Patent Owner on 30 April 2007Third Party(ies) on 30 May 2007**RESPONSE TIMES ARE SET TO EXPIRE AS FOLLOWS:***For Patent Owner's Response:*

2 MONTH(S) from the mailing date of this action. 37 CFR 1.945. EXTENSIONS OF TIME ARE GOVERNED BY 37 CFR 1.956.

*For Third Party Requester's Comments on the Patent Owner Response:*

30 DAYS from the date of service of any patent owner's response. 37 CFR 1.947. NO EXTENSIONS OF TIME ARE PERMITTED. 35 U.S.C. 314(b)(2).

All correspondence relating to this inter partes reexamination proceeding should be directed to the **Central Reexamination Unit** at the mail, FAX, or hand-carry addresses given at the end of this Office action.

This action is not an Action Closing Prosecution under 37 CFR 1.949, nor is it a Right of Appeal Notice under 37 CFR 1.953.

**PART I. THE FOLLOWING ATTACHMENT(S) ARE PART OF THIS ACTION:**

1. ☒ Notice of References Cited by Examiner, PTO-892
2. ☒ Information Disclosure Citation, PTO/SB/08
3. ☐ \_\_\_\_\_

**PART II. SUMMARY OF ACTION:**

- 1a. ☒ Claims 1-6 are subject to reexamination.
- 1b. ☐ Claims \_\_\_\_\_ are not subject to reexamination.
2. ☐ Claims \_\_\_\_\_ have been canceled.
3. ☐ Claims \_\_\_\_\_ are confirmed. [Unamended patent claims]
4. ☐ Claims \_\_\_\_\_ are patentable. [Amended or new claims]
5. ☒ Claims 1-6 are rejected.
6. ☐ Claims \_\_\_\_\_ are objected to.
7. ☐ The drawings filed on \_\_\_\_\_ ☐ are acceptable ☐ are not acceptable.
8. ☐ The drawing correction request filed on \_\_\_\_\_ is: ☐ approved. ☐ disapproved.
9. ☐ Acknowledgment is made of the claim for priority under 35 U.S.C. 119 (a)-(d). The certified copy has: ☐ been received. ☐ not been received. ☐ been filed in Application/Control No 95000123.
10. ☐ Other \_\_\_\_\_

Application/Control Number:  
95/000,123  
Art Unit: 3993

Page 2

### **DETAILED ACTION**

This 2<sup>nd</sup> Action Non-Final is in response to the Patent Owner's response received 20 April 2007 and the Third Party Requester's response received 30 May 2007. The action is non-final and not an action closing prosecution because, upon review of the arguments presented by the Third Party Requester, Examiner has newly adopted in this office action Grounds 1, 8, 15, 22, 29, and 36 of rejection.

### ***IDS***

The IDS received 5 Nov. 2007 is acknowledged. A signed 1449 accompanies this office action. The marked through entries, or documents, could not be found by the Examiner in the image file wrapper (IFW). Patent Owner should review the IFW to ensure that the entries are properly presented.

### ***Statutory Basis for Grounds of Rejections - 35 USC § 102 and 103***

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person

Application/Control Number:  
95/000,123  
Art Unit: 3993

Page 3

having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

***Third Party Requester's Grounds of Rejections***

***Re. Claim 1***

**Ground #1.** The requester submits that claim 1 is unpatentable under 35 U.S.C. § 102(b) as being anticipated by Nesbitt, U.S. Pat. No. 4,431,193 (Nesbitt).

**Ground #2.** The requester submits that claim 1 is unpatentable under 35 U.S.C. § 103(a) as being obvious over Nesbitt, U.S. Pat. No. 4,431,193, in view of Molitor et al., U.S. Pat. No. 4,274,637, (Molitor '637).

**Ground #3.** The requester submits that claim 1 is unpatentable under 35 U.S.C. § 103(a) as being obvious over Nesbitt, U.S. Pat. No. 4,431,193, in view of Wu, U.S. Pat. No. 5,334,673, (Wu).

**Ground #4.** The requester submits that claim 1 is unpatentable under 35 U.S.C. § 103(a) as being obvious over Nesbitt, U.S. Pat. No. 4,431,193, in view of Molitor et al., U.S. Pat. No. 4,674,751, (Molitor '751).

**Ground #5.** The requester submits that claim 1 is unpatentable under 35 U.S.C. § 103(a) as being obvious over Proudfit, U.S. Pat. No. 5,314,187, (Proudfit) in view of Molitor et al., U.S. Pat. No. 4,274,637.

**Ground #6.** The requester submits that claim 1 is unpatentable under 35 U.S.C. § 103(a) as being obvious over Proudfit, U.S. Pat. No. 5,314,187, in view of Wu, U.S. Pat. No. 5,334,673.

**Ground #7.** The requester submits that claim 1 is unpatentable under 35 U.S.C. § 103(a) as being obvious over Proudfit, U.S. Pat. No. 5,314,187, in view of Molitor et al., U.S. Pat. No. 4,674,751.

***Re. Claim 2***

**Ground #8.** The requester submits that claim 2 is unpatentable under 35 U.S.C. § 102(b) as being anticipated by Nesbitt, U.S. Pat. No. 4,431,193.



Application/Control Number:  
95/000,123  
Art Unit: 3993

Page 4

**Ground #9.** The requester submits that claim 2 is unpatentable under 35 U.S.C. § 103(a) as being obvious over Nesbitt, U.S. Pat. No. 4,431,193, in view of Molitor et al., U.S. Pat. No. 4,274,637.

**Ground #10.** The requester submits that claim 2 is unpatentable under 35 U.S.C. § 103(a) as being obvious over Nesbitt, U.S. Pat. No. 4,431,193, in view of Wu, U.S. Pat. No. 5,334,673.

**Ground #11.** The requester submits that claim 2 is unpatentable under 35 U.S.C. § 103(a) as being obvious over Nesbitt, U.S. Pat. No. 4,431,193, in view of Molitor et al., U.S. Pat. No. 4,674,751.

**Ground #12.** The requester submits that claim 2 is unpatentable under 35 U.S.C. § 103(a) as being obvious over Proudfit, U.S. Pat. No. 5,314,187, in view of Molitor et al., U.S. Pat. No. 4,274,637.

**Ground #13.** The requester submits that claim 2 is unpatentable under 35 U.S.C. § 103(a) as being obvious over Proudfit, U.S. Pat. No. 5,314,187, in view of Wu, U.S. Pat. No. 5,334,673.

**Ground #14.** The requester submits that claim 2 is unpatentable under 35 U.S.C. § 103(a) as being obvious over Proudfit, U.S. Pat. No. 5,314,187, in view of Molitor et al., U.S. Pat. No. 4,674,751.

*Re. Claim 3*

**Ground #15.** The requester submits that claim 3 is unpatentable under 35 U.S.C. § 102(b) as being anticipated by Nesbitt, U.S. Pat. No. 4,431,193.

**Ground #16.** The requester submits that claim 3 is unpatentable under 35 U.S.C. § 103(a) as being obvious over Nesbitt, U.S. Pat. No. 4,431,193, in view of Molitor et al., U.S. Pat. No. 4,274,637.

**Ground #17.** The requester submits that claim 3 is unpatentable under 35 U.S.C. § 103(a) as being obvious over Nesbitt, U.S. Pat. No. 4,431,193, in view of Wu, U.S. Pat. No. 5,334,673.

Application/Control Number:  
95/000,123  
Art Unit: 3993

Page 5

**Ground #18.** The requester submits that claim 3 is unpatentable under 35 U.S.C. § 103(a) as being obvious over Nesbitt, U.S. Pat. No. 4,431,193, in view of Molitor et al., U.S. Pat. No. 4,674,751.

**Ground #19.** The requester submits that claim 3 is unpatentable under 35 U.S.C. § 103(a) as being obvious over Proudfit, U.S. Pat. No. 5,314,187, in view of Molitor et al., U.S. Pat. No. 4,274,637.

**Ground #20.** The requester submits that claim 3 is unpatentable under 35 U.S.C. § 103(a) as being obvious over Proudfit, U.S. Pat. No. 5,314,187, in view of Wu, U.S. Pat. No. 5,334,673.

**Ground #21.** The requester submits that claim 3 is unpatentable under 35 U.S.C. § 103(a) as being obvious over Proudfit, U.S. Pat. No. 5,314,187, in view of Molitor et al., U.S. Pat. No. 4,674,751.

*Re. Claim 4*

**Ground #22.** The requester submits that claim 4 is unpatentable under 35 U.S.C. § 102(b) as being anticipated by Nesbitt, U.S. Pat. No. 4,431,193.

**Ground #23.** The requester submits that claim 4 is unpatentable under 35 U.S.C. § 103(a) as being obvious over Nesbitt, U.S. Pat. No. 4,431,193, in view of Molitor et al., U.S. Pat. No. 4,274,637.

**Ground #24.** The requester submits that claim 4 is unpatentable under 35 U.S.C. § 103(a) as being obvious over Nesbitt, U.S. Pat. No. 4,431,193, in view of Wu, U.S. Pat. No. 5,334,673.

**Ground #25.** The requester submits that claim 4 is unpatentable under 35 U.S.C. § 103(a) as being obvious over Nesbitt, U.S. Pat. No. 4,431,193, in view of Molitor et al., U.S. Pat. No. 4,674,751.

**Ground #26.** The requester submits that claim 4 is unpatentable under 35 U.S.C. § 103(a) as being obvious over Proudfit, U.S. Pat. No. 5,314,187, in view of Molitor et al., U.S. Pat. No. 4,274,637.

Application/Control Number:  
95/000,123  
Art Unit: 3993

Page 6

**Ground #27.** The requester submits that claim 4 is unpatentable under 35 U.S.C. § 103(a) as being obvious over Proudfit, U.S. Pat. No. 5,314,187, in view of Wu, U.S. Pat. No. 5,334,673.

**Ground #28.** The requester submits that claim 4 is unpatentable under 35 U.S.C. § 103(a) as being obvious over Proudfit, U.S. Pat. No. 5,314,187, in view of Molitor et al., U.S. Pat. No. 4,674,751.

*Re. Claim 5*

**Ground #29.** The requester submits that claim 5 is unpatentable under 35 U.S.C. § 102(b) as being anticipated by Nesbitt, U.S. Pat. No. 4,431,193.

**Ground #30.** The requester submits that claim 5 is unpatentable under 35 U.S.C. § 103(a) as being obvious over Nesbitt, U.S. Pat. No. 4,431,193, in view of Molitor et al., U.S. Pat. No. 4,274,637.

**Ground #31.** The requester submits that claim 5 is unpatentable under 35 U.S.C. § 103(a) as being obvious over Nesbitt, U.S. Pat. No. 4,431,193, in view of Wu, U.S. Pat. No. 5,334,673.

**Ground #32.** The requester submits that claim 5 is unpatentable under 35 U.S.C. § 103(a) as being obvious over Nesbitt, U.S. Pat. No. 4,431,193, in view of Molitor et al., U.S. Pat. No. 4,674,751.

**Ground #33.** The requester submits that claim 5 is unpatentable under 35 U.S.C. § 103(a) as being obvious over Proudfit, U.S. Pat. No. 5,314,187, in view of Molitor et al., U.S. Pat. No. 4,274,637.

**Ground #34.** The requester submits that claim 5 is unpatentable under 35 U.S.C. § 103(a) as being obvious over Proudfit, U.S. Pat. No. 5,314,187, in view of Wu, U.S. Pat. No. 5,334,673.

**Ground #35.** The requester submits that claim 5 is unpatentable under 35 U.S.C. § 103(a) as being obvious over Proudfit, U.S. Pat. No. 5,314,187, in view of Molitor et al., U.S. Pat. No. 4,674,751.

Application/Control Number:  
95/000,123  
Art Unit: 3993

Page 7

*Re. Claim 6*

**Ground #36.** The requester submits that claim 6 is unpatentable under 35 U.S.C. § 102(b) as being anticipated by Nesbitt, U.S. Pat. No. 4,431,193.

**Ground #37.** The requester submits that claim 6 is unpatentable under 35 U.S.C. § 103(a) as being obvious over Nesbitt, U.S. Pat. No. 4,431,193, in view of Molitor et al., U.S. Pat. No. 4,274,637.

**Ground #38.** The requester submits that claim 6 is unpatentable under 35 U.S.C. § 103(a) as being obvious over Nesbitt, U.S. Pat. No. 4,431,193, in view of Wu, U.S. Pat. No. 5,334,673.

**Ground #39.** The requester submits that claim 6 is unpatentable under 35 U.S.C. § 103(a) as being obvious over Nesbitt, U.S. Pat. No. 4,431,193, in view of Molitor et al., U.S. Pat. No. 4,674,751.

**Ground #40.** The requester submits that claim 6 is unpatentable under 35 U.S.C. § 103(a) as being obvious over Proudfit, U.S. Pat. No. 5,314,187, in view of Molitor et al., U.S. Pat. No. 4,274,637.

**Ground #41.** The requester submits that claim 6 is unpatentable under 35 U.S.C. § 103(a) as being obvious over Proudfit, U.S. Pat. No. 5,314,187, in view of Wu, U.S. Pat. No. 5,334,673.

**Ground #42.** The requester submits that claim 6 is unpatentable under 35 U.S.C. § 103(a) as being obvious over Proudfit, U.S. Pat. No. 5,314,187, in view of Molitor et al., U.S. Pat. No. 4,674,751.

*Summary of Grounds Adopted vel non*

Proposed Grounds Adopted by the Examiner: 1-11, 15-22, 23-25, 29-42.

Proposed Grounds Not Adopted by the Examiner: 12-14, and 26-28.

*Summary of the Grounds of Rejections*

Application/Control Number:  
95/000,123  
Art Unit: 3993

Page 8

Claims 1-6 are rejected under 35 U.S.C. § 102(b) as being unpatentable over Nesbitt, U.S. Pat. No. 4,431,193 (Nesbitt) with incorporation by reference of Molitor et al., U.S. Pat. No. 4,274,637 (Molitor '637).

Claims 1-6 are rejected under 35 U.S.C. § 103(a) as being unpatentable over Nesbitt, U.S. Pat. No. 4,431,193 (Nesbitt) in view of Molitor et al., U.S. Pat. No. 4,274,637 (Molitor '637).

Claims 1-6 are rejected under 35 U.S.C. § 103(a) as being unpatentable over Nesbitt, U.S. Pat. No. 4,431,193 (Nesbitt) mentioning Molitor et al., U.S. Pat. No. 4,274,637 (Molitor '637) in view of Wu, U.S. Pat. No. 5,334,673, (Wu) as evidenced by Exhibit C.

Claims 1-6 are rejected under 35 U.S.C. § 103(a) as being unpatentable over Nesbitt, U.S. Pat. No. 4,431,193 (Nesbitt) mentioning Molitor et al., U.S. Pat. No. 4,274,637 (Molitor '637) in view of Molitor et al., U.S. Pat. No. 4,674,751 (Molitor '751).

Claims 1, 3, 5 and 6 are rejected under 35 U.S.C. § 103(a) as being unpatentable over Proudfit, U.S. Pat. No. 5,314,187 (Proudfit) in view of Molitor et al., U.S. Pat. No. 4,274,637 (Molitor '637).

Claims 1, 3, 5 and 6 are rejected under 35 U.S.C. § 103(a) as being unpatentable over Proudfit, U.S. Pat. No. 5,314,187 (Proudfit) in view of Wu, U.S. Pat. No. 5,334,673 (Wu).

Application/Control Number:  
95/000,123  
Art Unit: 3993

Page 9

Claims 1, 3, 5 and 6 are rejected under 35 U.S.C. § 103(a) as being unpatentable over Proudfit, U.S. Pat. No. 5,314,187 (Proudfit) in view of Molitor et al., U.S. Pat. No. 4,674,751 (Molitor '751).



Application/Control Number:  
95/000,123  
Art Unit: 3993

Page 10

### **Proposed Third Party Requester's Rejections**

#### *Issue of Inherency*

Multiple proposed rejections that the third party requester submits are based on the inherent properties of the materials. In order to prove the inherent properties of these materials the requester has provided "product data sheets" for the following materials: SURLYN (Exhibit I) and ESTANE (Exhibit J). These "product data sheets" have publication dates later than the critical date of the claimed inventions. Also, the third party requester has provided other Exhibits to prove or evidence inherency, e.g. Exhibit C (description of a golf product performance characteristics); Exhibits G and L (patent owners admissions)

MPEP § 2124 lists exceptions to the rule that the publication date must precede the critical data of the claimed invention: "...facts [that] include the characteristics and properties of a material...". The Shore D hardness and flexural modulus are characteristics and properties of a material. Thus, it is appropriate to use these "product data sheets" to show such a universal fact as the inherent properties of a known material. Moreover, See also MPEP § 2112.01: "Where the claimed and prior art products are identical or substantially identical in structure or composition, or are produced by identical or substantially identical processes, a prima facie case of either anticipation or obviousness has been established. *In re Best*, 562 F.2d 1252, 1255, 195 USPQ 430, 433 (CCPA 1977)." And, "Products of identical chemical composition can not have mutually exclusive properties." "A chemical composition and its properties are inseparable. Therefore, if the prior art teaches the identical chemical structure, the properties applicant discloses and/or claims are necessarily present. *In re Spada*, 911 F.2d 705, 709, 15 USPQ2d 1655, 1658 (Fed. Cir. 1990)."

Application/Control Number:  
95/000,123  
Art Unit: 3993

Page 11

Re. Claim 1

**Proposed Third Party Requester Rejection: Ground #1**

The requester submits that claim 1 is unpatentable under 35 U.S.C. § 102(b) as being anticipated by Nesbitt, U.S. Pat. No. 4,431,193 (Nesbitt).

In the request on pages 14 through 18 the third party requester proposes that claim 1 be rejected based upon Nesbitt alone with the incorporation by reference of Molitor '637. The third party requester points out that Molitor '637 is incorporated by reference into Nesbitt because Nesbitt refers to Molitor '637. (See Nesbitt col. 3, ll. 54-60).

**This rejection is adopted in this office action.**

Below is a claim chart identifying the claim limitations and which reference Nesbitt or Molitor '637 discloses, teaches or suggests the claim limitations.

Claim 1	Nesbitt (primary) with Molitor '637 (incorporation by reference)
A golf ball comprising:	"The disclosure embraces a <b>golf ball</b> and method of making the same..." (Nesbitt, Abstract; and FIGS. 1 & 2)
a core;	"Referring to the drawings in detail there is illustrated a golf ball 10 which comprises a <b>solid center or core</b> formed as a solid body of resilient polymeric material or rubber-like material in the shape of a sphere. (Nesbitt, col. 2, ll. 31-34).
an inner cover layer disposed on said core,	"Disposed on the spherical center or core 12 is a first layer, lamination, ply or <b>inner cover</b> 14 of molded hard, highly flexural modulus resinous material...." (Nesbitt, col. 2, ll. 34-37).
said inner cover layer having a thickness of from about 0.100 to about 0.010 inches,	"It is found that the inner layer of hard, high flexural modulus resinous material such as SURLYN resin type 1605, is preferably of a thickness <b>in the range of 0.020 inches and 0.070 inches.</b> " (Nesbitt, col. 3, ll. 19-23).
said inner cover layer comprising a blend	"Reference is made to the application Ser. No. 155,658 of

Application/Control Number:  
95/000,123  
Art Unit: 3993

Page 12

of two or more ionomer resins, at least one of which contains no more than 16% by weight of alpha, beta-unsaturated carboxylic acid; and	Robert P. <b>Molitor</b> issued into U.S. Pat. No. 4,274,637 which describes a number of foamable compositions of a character which may be employed for ... layers 14 ... for the golf ball of this invention." (Nesbitt, col. 3, ll. 54-60). <b>Molitor '637</b> : Molitor teaches, in examples 1-7, cover materials including a blend of two ionomer resins: SURLYN 1605 and SURLYN 1557. (Molitor '637, col. 14, l. 22 to col. 16, l. 34).
an outer cover layer disposed on said inner cover layer,	"An <b>outer layer</b> , ply, lamination or <b>cover 16</b> ... is then <b>remolded onto the inner ply or layer 14</b> ..." (Nesbitt, col. 2, ll. 43-47).
said outer cover layer having a thickness of 0.010 to 0.070 inches,	"The <b>thickness of the outer layer or cover 16</b> of soft, low flexural modulus resin such as SURLYN type 1855, <b>may be in the range of 0.020 inches and 0.100 inches.</b> " (Nesbitt, col. 3, ll. 22-25).
and said outer cover layer comprising a polyurethane material,	<b>Molitor '637</b> : ESTANE 58133 is a polyurethane material. (Molitor, col. 18)
wherein said golf ball has an overall diameter of 1.680 inches or more,	"According to the United States Golf Association Rules, the minimum diameter prescribed for a golf ball is 1.680 inches ..." (Nesbitt, col. 2: ll. 50-52). "This center or core 12 and inner layer of hard resinous material in the form of a sphere is then remolded into a dimpled golf ball of a diameter of 1.680 inches minimum with an outer or cover layer 16 of a soft, low flexural modulus resin ..." (Nesbitt, col. 3, ll. 34-38).
said inner cover layer having a Shore D hardness of at least 60,	"[I]nner cover 14 of molded hard, high flexural modulus resinous material such as type 1605 SURLYN marketed by E.I. DuPont de Nemours." (Nesbitt, col. 2, ll. 36-38). Sullivan '873 Patent: "Type 1605 SURLYN (now designated SURLYN 8940) ('873 patent, col. 2. ll. 46-47.
and said outer cover layer having a Shore D hardness of less than 64.	<b>Molitor '637</b> teaches in TABLE 10 an outer layer made from a thermoplastic polyurethane identified as ESTANE 58133.

As mentioned above, Nesbitt incorporating by reference Molitor '637 as describing an number of compositions suitable for the inner cover layer 14. Of particular interest in this case are Examples 1-7 within Molitor '637. Examples 1-7 use a ratio of SURLYN 1605 and SURLYN 1557. The use of SURLYN grades for golf ball covers is also disclosed in U.S. Pat. No. 4,690,981. The preferred composition in the '981 Patent has "from about 5[%] to about 15%

Application/Control Number:  
95/000,123  
Art Unit: 3993

Page 13

by weight of unsaturated carboxylic acid.” ‘981 Pat., col. 3, ll. 59-60. Those of ordinary skill in the art understand that SURLYN 1605 has been “redesignated” as SURLYN 8940 and SURLYN 1557 has been “redesignated” as SURLYN 9650, see e.g. U.S. Pat. No. 4,679,795, col. 6, ll. 10-15 and U.S. Pat. No. 5,150,906, col. 4, ll. 66. Furthermore, the Patent Owner in the Sullivan ‘873 Patent admitted that SURLYN 1605 is now designated as 8940 and was used in Nesbitt’s first (inner) layer and is a sodium ion based low acid “(less than or equal to 15 weight percent methacrylic acid) ionomer resin having a flexural modulus of about 51,000 psi.” See ‘873 Patent, col. 2, ll. 43-50. Moreover, as shown in the “Properties Grid for Selected Industrial Grades of SURLYN” SURLYN 9650’s ordinate compared to the other grades of SURLYN is toward the “Low % Acid” side of the graph. Thus, based on this evidence, Nesbitt incorporating by reference Molitor ‘637 inherently teaches using as an inner layer at least one ionomer resin having no more than 16% by weight of alpha, beta-unsaturated carboxylic acid. Also, as mentioned above, Molitor ‘637 teaches in TABLE 10 an outer layer made from a thermoplastic polyurethane identified as ESTANE 58133. A review of the scientific literature yields that ESTANE 58133 has an inherent Shore D hardness of 55, see Exhibit J “ESTANE 58133 TPU Product Data Sheet”. A Shore D hardness of 55 is within the range claimed of Shore D hardness less than 64. Therefore, Molitor ‘637’s teaching of using ESTANE 58133 inherently meets the claim limitation of providing a outer cover layer of polyurethane material having a Shore hardness of less than 64. Nesbitt discloses its outer layer was made from SURLYN 1855 (now SURLYN 9020). This material had inherently flexural modulus of about 14,000 psi and a Shore hardness of 55, see Exhibit I “Typical Properties for Selected Grades of SURLYN”. Moreover, as admitted by the inventor Sullivan of the ‘873 patent, golf ball designers knew that the

Application/Control Number:  
95/000,123  
Art Unit: 3993

Page 14

mechanical properties of the materials used as a golf-ball cover layer were more critical to golf ball performance than the actual materials themselves, see Exhibit G at 334.

This rejection of claim 1 based on Nesbitt with incorporation by reference of Molitor '637 was proposed by the third party requester in the request for reexamination and is being adopted essentially as proposed in the request.

#### Ground 1: Patent Owner's Argument

Patent Owner does not argue this rejection.

#### Ground 1: Third Party Requester's Comments

Third Party Requester argues that the language of Nesbitt at col. 3, lines 56-61, was a proper incorporation by reference of Molitor '637. In the 1<sup>st</sup> Office Action the Examiner stated that the language of Nesbitt was not proper incorporation of reference because the perfecting root words of "incorporate" and "reference" were not in the reference statement (1<sup>st</sup> Office Action pages 10-11). Third Party Requester's rebuttal is that the standard used by the Examiner was not the standard for incorporation by reference during prosecution of the Nesbitt patent (Third Party Requester's Comments at pages 3-5). The Third Party Requester bolsters this argument by citing several court decisions (Third Party Requester's Comments at pages 5-6).

#### Ground 1: Examiner's Response to the Argument and Comments

Upon review, the Examiner agrees with the arguments of the Third Party Requester and adopts this suggested rejection. The language of incorporation used in Nesbitt is found at col. 3,

Application/Control Number:  
95/000,123  
Art Unit: 3993

Page 15

lines 54-61, and states that "Polymeric materials are preferably such as ionomer resins which are foamable. **Reference is made** to the application Ser. No. 15,658, of Robert P. Molitor issued into U.S. Patent No. 4,274,637 which describes a number of foamable compositions of a character which may be employed for one or both layers . . . " (emphasis added).

The pertinent language of incorporation by reference quoted in *In re Hughes* is found at 550 F.2d 1275 and states that "**Reference is made** to application Ser. No. 131,108 for complete description of methods of preparing aqueous polymeric dispersions applicable in the hereinafter described invention" (emphasis added). This language was held to incorporate '108.

The pertinent language of incorporation by reference quoted in *In re Voss* is found at 557 F.2d 816 and states that "**Reference is made** to United States Patent No. 2,920,971, granted to S.D. Stookey '971, for a general discussion of glass-ceramic materials and their production" (emphasis added). This language was held to incorporate '971.

Since the language in Nesbitt for incorporation by reference is virtually identical to the language used in *In re Hughes* and *In re Voss*, the Examiner concludes that Nesbitt incorporates by reference Molitor '637.

#### **Proposed third party requester rejection: Ground #2**

The requester submits on pages 14-18 of the request that claim 1 is unpatentable under 35 U.S.C. § 103(a) as being obvious over Nesbitt, U.S. Pat. No. 4,431,193, in view of Molitor et al., U.S. Pat. No. 4,274,637, (Molitor '637).

Claim 1 is rejected under 35 U.S.C. § 103(a) as being unpatentable over Nesbitt in view of Molitor '637.

Application/Control Number:  
95/000,123  
Art Unit: 3993

Page 16

Below is a claim chart identifying the claim limitations and which reference Nesbitt or Molitor '637 discloses, teaches or suggests the claim limitations.

Claim 1	Nesbitt (primary) with Molitor '637 (teaching)
A golf ball comprising:	"The disclosure embraces a <b>golf ball</b> and method of making the same..." (Nesbitt, Abstract; and FIGS. 1 & 2)
a core;	"Referring to the drawings in detail there is illustrated a golf ball 10 which comprises a <b>solid center or core</b> formed as a solid body of resilient polymeric material or rubber-like material in the shape of a sphere. (Nesbitt, col. 2, ll. 31-34).
an inner cover layer disposed on said core,	"Disposed on the spherical center or core 12 is a first layer, lamination, ply or <b>inner cover</b> 14 of molded hard, highly flexural modulus resinous material...." (Nesbitt, col. 2, ll. 34-37).
said inner cover layer having a thickness of from about 0.100 to about 0.010 inches,	"It is found that the inner layer of hard, high flexural modulus resinous material such as SURLYN resin type 1605, is preferably of a thickness <b>in the range of 0.020 inches and 0.070 inches.</b> " (Nesbitt, col. 3, ll. 19-23).
said inner cover layer comprising a blend of two or more ionomer resins, at least one of which contains no more than 16% by weight of alpha, beta-unsaturated carboxylic acid; and	"Reference is made to the application Ser. No. 155,658 of Robert P. <b>Molitor</b> issued into U.S. Pat. No. 4,274,637 which describes a number of foamable compositions of a character which may be employed for ... layers 14 ... for the golf ball of this invention." (Nesbitt, col. 3, ll. 54-60). <b>Molitor '637:</b> Molitor teaches, in examples 1-7, cover materials including a blend of two ionomer resins: SURLYN 1605 and SURLYN 1557. (Molitor '637, col. 14, l. 22 to col. 16, l. 34).
an outer cover layer disposed on said inner cover layer,	"An <b>outer layer</b> , ply, lamination or <b>cover</b> 16 ... is then <b>remolded onto the inner ply or layer 14 ...</b> " (Nesbitt, col. 2, ll. 43-47).
said outer cover layer having a thickness of 0.010 to 0.070 inches,	"The <b>thickness of the outer layer or cover</b> 16 of soft, low flexural modulus resin such as SURLYN type 1855, <b>may be in the range of 0.020 inches and 0.100 inches.</b> " (Nesbitt, col. 3, ll. 22-25).
and said outer cover layer comprising a polyurethane material,	<b>Molitor '637:</b> ESTANE 58133 is a polyurethane material. (Molitor, col. 18)
wherein said golf ball has an overall diameter of 1.680 inches or more,	"According to the United States Golf Association Rules, the minimum diameter prescribed for a golf ball is 1.680 inches ..." (Nesbitt, col. 2: ll. 50-52). "This center or core 12 and inner layer of hard resinous material in the form of a sphere is then remolded into a dimpled golf ball of a diameter of 1.680 inches minimum with an outer



Application/Control Number:  
95/000,123  
Art Unit: 3993

Page 17

	or cover layer 16 of a soft, low flexural modulus resin ..." (Nesbitt, col. 3, ll. 34-38).
said inner cover layer having a Shore D hardness of at least 60,	"[I]nner cover 14 of molded hard, high flexural modulus resinous material such as type 1605 SURLYN marketed by E.I. DuPont de Nemours." (Nesbitt, col. 2, ll. 36-38). Sullivan '873 Patent: "Type 1605 SURLYN (now designated SURLYN 8940) ('873 patent, col. 2, ll. 46-47.
and said outer cover layer having a Shore D hardness of less than 64.	<b>Molitor '637</b> teaches in TABLE 10 an outer layer made from a thermoplastic polyurethane identified as ESTANE 58133.

As mentioned above, Nesbitt references Molitor '637 as describing an number of compositions suitable for the inner cover layer 14. Of particular interest in this case are Examples 1-7 within Molitor '637. Examples 1-7 use a ratio of SURLYN 1605 and SURLYN 1557. The use of SURLYN grades for golf ball covers is also disclosed in U.S. Pat. No. 4,690,981. The preferred composition in the '981 Patent has "from about 5[%] to about 15% by weight of unsaturated carboxylic acid." '981 Pat., col. 3, ll. 59-60. Those of ordinary skill in the art understand that SURLYN 1605 has been "redesignated" as SURLYN 8940 and SURLYN 1557 has been "redesignated" as SURLYN 9650, see e.g. U.S. Pat. No. 4,679,795, col. 6, ll. 10-15 and U.S. Pat. No. 5,150,906, col. 4, ll. 66. Furthermore, the Patent Owner in the Sullivan '873 Patent admitted that SURLYN 1605 is now designated as 8940 and was used in Nesbitt's first (inner) layer and is a sodium ion based low acid "(less than or equal to 15 weight percent methacrylic acid) ionomer resin having a flexural modulus of about 51,000 psi." See '873 Patent, col. 2, ll. 43-50. Moreover, as shown in the "Properties Grid for Selected Industrial Grades of SURLYN" SURLYN 9650's ordinate compared to the other grades of SURLYN is toward the "Low % Acid" side of the graph. Thus, based on this evidence, Nesbitt referencing Molitor '637 inherently teaches using as an inner layer at least one ionomer resin having no more

Application/Control Number:  
95/000,123  
Art Unit: 3993

Page 18

than 16% by weight of alpha, beta-unsaturated carboxylic acid. Also, as mentioned above, Molitor '637 teaches in TABLE 10 an outer layer made from a thermoplastic polyurethane identified as ESTANE 58133. A review of the scientific literature yields that ESTANE 58133 has an inherent Shore D hardness of 55, see Exhibit J "ESTANE 58133 TPU Product Data Sheet". A Shore D hardness of 55 is within the range claimed of Shore D hardness less than 64. Therefore, Molitor '637's teaching of using ESTANE 58133 inherently meets the claim limitation of providing a outer cover layer of polyurethane material having a Shore hardness of less than 64. Nesbitt discloses its outer layer was made from SURLYN 1855 (now SURLYN 9020). This material had inherently flexural modulus of about 14,000 psi and a Shore hardness of 55, see Exhibit I "Typical Properties for Selected Grades of SURLYN". Moreover, as admitted by the inventor Sullivan of the '873 patent, golf ball designers knew that the mechanical properties of the materials used as a golf-ball cover layer were more critical to golf ball performance than the actual materials themselves, see Exhibit G at 334. Thus, because the actual chemical composition of the material is not critical to the practice of the invention with respect to its mechanical performance, i.e. its "click and feel" for a golfer, one of ordinary skill in the art at the time the invention was made would find it obvious to substitute one material for another material if both materials had substantially the same mechanical properties.

This rejection of claim 1 based on Nesbitt in view of Molitor '637 was proposed by the third party requester in the request for reexamination and is being adopted essentially as proposed in the request.

Ground 2: Patent Owner's Argument

Application/Control Number:  
95/000,123  
Art Unit: 3993

Page 19

Patent Owner argues that the combination of Nesbitt and Molitor '637 is improper because: (1) Nesbitt's entire focus is on golf balls with all-ionomer resins, preferably foamable, two-layer covers and references Molitor '637 for examples of foamable ionomer resins. Hence, Nesbitt teaches away from the disclosure of Molitor '637's disclosure of non-ionomeric resins, including polyurethane (Patent Owner's Response at page 15 to middle of page 16); (2) in a deposition (Exhibit F) Nesbitt, himself, stated that he did not consider use of polyurethane as an outer cover material (Patent Owner's Response at middle of page 16); (3) Nesbitt combined with Molitor '637 is improper because their individually disclosed thicknesses for the outer layer are divergent (Patent Owner's Response at top of page 17); (4) neither reference discloses a Shore D hardness of 64 or less for the outer layer measured on the ball with the Examiner relying on commercial literature of ESTANE polyurethane (Exhibit J) for a hardness value. This value is not probative because hardness values of the same material will differ depending upon the total construction of the ball (Patent Owner's Response at middle of page 18); (5) one of ordinary skill did not know at the time of the claimed invention to use a thin, polyurethane cover layer have a Shore hardness of 64 or less on the ball before the patent at issue taught this construction (Patent Owner's Response at top of page 16); and, (6) the combination impermissibly uses hindsight construction by scouring the prior art to locate individual claim elements (Patent Owner's Response at bottom of page 19).

#### Ground 2: Third Party Requester's Comments

As to the Patent Owner's first argument, the Third Party Requester states that the plain language of Nesbitt is that the outer or inner cover layers can be of a synthetic polymeric

Application/Control Number:  
95/000,123  
Art Unit: 3993

Page 20

material and that Molitor '637 gives examples of synthetic polymeric materials, including polyurethane (Third Party Requester's Comments at page 19 to top of page 20).

As to the Patent Owner's second argument, the Third Party Requester states that the Fed. Cir. takes a dim view of testimony for a patent's meaning from inventors after the fact citing *Bell & Howell Document Mgmt. Prods. Co. v Altek Sys.* (Third Party Requester's Comments at middle of page 20).

As to the Patent Owner's third argument, the Third Party Requester states that the range of thicknesses in the two patents overlay and disclose in part the same ranges, and, hence a person of ordinary skill would find it obvious to substitute one layer material for another (Third Party Requester's Comments at bottom of page 20 to top of page 21).

As to the Patent Owner's fourth argument, the Third Party Requester states that an expert in the art produced a three-piece ball with the core and inner layer of Nesbitt and the cover of Molitor '637. The ball exhibited Shore hardness values within those of the claimed values (Third Party Requester's Comments at bottom of page 21 to top of page 22).

As to the Patent Owner's fifth argument, the Third Party Requester states that golf balls with a core and inner and outer layers were known before the filing of the '873 patent (Third Party Requester's Comments at page 17 to page 19). Further, polyurethane has been used in golf ball covers before the filing of the '873 patent (Third Party Requester's Comments at page 17 to page 19).

As to the Patent Owner's sixth argument, the Third Party Requester states that the combination of a ball with the core and inner layer of Nesbitt with an outer polyurethane layer is proper in light of the decisions in *Ex parte Sullivan* and *KSR v. Teleflex* (Third Party Requester's

Application/Control Number:  
95/000,123  
Art Unit: 3993

Page 21

Comments at page 14 to page 16). In *Sullivan* a split panel of the BPAI held that “[i]n applying the test for obviousness, we conclude that the teaching of WU clearly would have made it obvious at the time of the invention was made to a person of ordinary skill in the art to have modified Nesbitt’s golf ball by using polyurethane as the outer cover material to achieve the expected benefits therefrom taught by Wu (i.e., to have the “click” and “feel” of balata, improved shear resistance and cut resistance; durability; and resiliency).” (Third Party Requester’s Comments at middle of page 14). In *KSR* a unanimous Court held that “[c]ommon sense teaches . . . that . . . in many cases, a person of ordinary skill will be able to fit the teachings of multiple patents together like pieces of a puzzle.” (Third Party Requester’s Comments at top of page 16).

## Ground 2: Examiner’s Response to the Argument and Comments

Examiner agrees with the comments of the Third Party Requester and the rejection of claim 1 under 35 USC 103(a) as being obvious by Nesbitt in view of Molitor ‘637 is maintained. Although Nesbitt’s emphasis (in his patent and deposition) may be on all-ionomer resins, it is settled law that a patent teaches all that it discloses, including nonpreferred embodiments (MPEP 2123(I)). Since Nesbitt references the Molitor ‘637 patent, one of ordinary skill would logically look at its complete disclosure which includes the use of polyurethane as an outer cover. The combination is proper because, in addition to the holdings quoted by the Third Party Requester in their comments, the Supreme Court has held that “[w]hen there is a design need or market pressure to solve a problem and there are a finite number of identified, predictable solutions, a person of ordinary skill has good reason to pursue the known options within his or her technical

Application/Control Number:  
95/000,123  
Art Unit: 3993

Page 22

grasp. If this leads to the anticipated success, it is likely the product not of innovation but of ordinary skill and common sense" (slip opinion of *KSR* at middle of page 17). Here, the problem of producing a golf ball with distance, durability, "click," and feel was known (Patent Owner's Response at bottom of page 4). Polyurethane was a known solution for providing "click" and feel (Third Party Requester's Comments *id.*). The resulting golf ball with a polyurethane outer cover layer had the expected results (*Sullivan* at page 11). Thus, the golf balls of claim 1 are of ordinary skill and common sense.

**Proposed third party requester rejection: Ground #3**

The requester submits on pages 18-20 of the request that claim 1 is unpatentable under 35 U.S.C. § 103(a) as being obvious over Nesbitt, U.S. Pat. No. 4,431,193, in view of Wu, U.S. Pat. No. 5,334,673, (Wu).

Claim 1 is rejected under 35 U.S.C. § 103(a) as being unpatentable over Nesbitt mentioning Molitor '637 in view of Wu, as evidenced by Exhibit C.

Below is a claim chart identifying the claim limitations and which reference Nesbitt or Wu discloses, teaches or suggests the claim limitations. As reported in the Order granting reexamination, it needs to be correctly stated on the record that Nesbitt and Molitor '637 which is mentioned in Nesbitt teach the use of particular polyurethane materials for the use as an outer layer.

Claim 1	Nesbitt (primary) mentioning Molitor '637 with Wu (teaching)
A golf ball comprising:	"The disclosure embraces a <b>golf ball</b> and method of making the same..." (Nesbitt, Abstract; and FIGS. 1 & 2)
a core;	"Referring to the drawings in detail there is illustrated a golf ball

Application/Control Number:  
95/000,123  
Art Unit: 3993

Page 23

	10 which comprises a <b>solid center or core</b> formed as a solid body of resilient polymeric material or rubber-like material in the shape of a sphere. (Nesbitt, col. 2, ll. 31-34).
an inner cover layer disposed on said core,	"Disposed on the spherical center or core 12 is a first layer, lamination, ply or <b>inner cover</b> 14 of molded hard, highly flexural modulus resinous material...." (Nesbitt, col. 2, ll. 34-37).
said inner cover layer having a thickness of from about 0.100 to about 0.010 inches,	"It is found that the inner layer of hard, high flexural modulus resinous material such as SURLYN resin type 1605, is preferably of a thickness <b>in the range of 0.020 inches and 0.070 inches.</b> " (Nesbitt, col. 3, ll. 19-23).
said inner cover layer comprising a blend of two or more ionomer resins, at least one of which contains no more than 16% by weight of alpha, beta-unsaturated carboxylic acid; and	"Reference is made to the application Ser. No. 155,658 of Robert P. <b>Molitor</b> issued into U.S. Pat. No. 4,274,637 which describes a number of foamable compositions of a character which may be employed for ... layers 14 ... for the golf ball of this invention." (Nesbitt, col. 3, ll. 54-60). <b>Molitor '637</b> : Molitor teaches, in examples 1-7, cover materials including a blend of two ionomer resins: SURLYN 1605 and SURLYN 1557. (Molitor '637, col. 14, l. 22 to col. 16, l. 34).
an outer cover layer disposed on said inner cover layer,	"An <b>outer layer</b> , ply, lamination or <b>cover</b> 16 ... is then <b>remolded onto the inner ply or layer 14 ...</b> " (Nesbitt, col. 2, ll. 43-47). <b>Wu</b> : "Preferably, a golf ball is made in accordance with the present invention by molding a cover about a core wherein the cover is formed from a polyurethane composition comprising a polyurethane prepolymer and a slow-reacting polyamine curing agent or a difunctional glycol." (Wu, col. 3, ll. 62-66).
said outer cover layer having a thickness of 0.010 to 0.070 inches,	"The <b>thickness of the outer layer or cover</b> 16 of soft, low flexural modulus resin such as SURLYN type 1855, <b>may be in the range of 0.020 inches and 0.100 inches.</b> " (Nesbitt, col. 3, ll. 22-25).
and said outer cover layer comprising a polyurethane material,	<b>Molitor '637</b> : ESTANE 58133 is a polyurethane material. (Molitor, col. 18) <b>Wu</b> : "[t]he present invention is a golf ball product made from a polyurethane prepolymer cured with a slow-reacting curing agent selected from the group of slow-reacting polyamine curing agents or difunctional glycols. The term "golf ball product" as used in the specification and claims means a cover, a core, a center or a one-piece golf ball. The cover of a golf ball made in accordance with the present invention has been found to have good shear resistance, cut resistance, durability and resiliency. <b>Preferably, the polyurethane composition of the present invention is used to make the</b>



Application/Control Number:  
95/000,123  
Art Unit: 3993

Page 24

	<b>cover of a golf ball.”</b> (Wu, col. 2, ll. 33-44).
wherein said golf ball has an overall diameter of 1.680 inches or more,	<p>“According to the United States Golf Association Rules, the minimum diameter prescribed for a golf ball is 1.680 inches ...” (Nesbitt, col. 2: ll. 50-52).</p> <p>“This center or core 12 and inner layer of hard resinous material in the form of a sphere is then remolded into a dimpled golf ball of a diameter of 1.680 inches minimum with an outer or cover layer 16 of a soft, low flexural modulus resin ...” (Nesbitt, col. 3, ll. 34-38).</p> <p><b>Wu:</b> “[t]he size of the mold cups is about that of a conventional golf ball mold, i.e. nominally 1.68 inches (4.25 cm) for American sized balls and nominally 1.62 inches (4.10 cm) for British sized balls.” (Wu, col. 5, ll. 47-50).</p>
said inner cover layer having a Shore D hardness of at least 60,	<p>“[I]nner cover 14 of molded hard, high flexural modulus resinous material such as type 1605 SURLYN marketed by E.I. DuPont de Nemours.” (Nesbitt, col. 2, ll. 36-38).</p> <p>Sullivan ‘873 Patent: “Type 1605 SURLYN (now designated SURLYN 8940) (‘873 patent, col. 2, ll. 46-47.</p>
and said outer cover layer having a Shore D hardness of less than 64.	<p><b>Molitor ‘637</b> teaches in TABLE 10 an outer layer made from a thermoplastic polyurethane identified as ESTANE 58133.</p> <p><b>Wu:</b> “With polyurethanes made in accordance with the present invention, the degree of cure which has taken place is dependent upon, inter alia, the time, temperature, type of curative, and amount of catalyst used. It has been found that the degree of cure of the cover composition is directly proportional to the hardness of the composition. A hardness of about 10D to 30D, Shore D hardness for the cover stock at the end of the intermediate curing step (i.e. just prior to the final molding step) has been found to be suitable for the present invention. More preferred is a hardness of about 12D to 20D.” (Wu, col. 6, ll. 27-38).</p>

As mentioned above, Nesbitt mentioning Molitor ‘637 teaches the use of particular polyurethane materials for the use as an outer layer. Wu teaches that polyurethane was being used as the outer layer of golf ball *circa* 1993. Wu further teaches in col. 1:36-46 that SURLYN covered golf balls lack the “click” and “feel” of balata which golfers have become accustomed to such sensations and polyurethane covered golf balls can be made to have a similar “click” and

Application/Control Number:  
95/000,123  
Art Unit: 3993

Page 25

“feel” of balata. Wu also at least teaches that polyurethanes made according to its invention will have Shore D hardness directly proportional to the degree of cure of the cover; and this Shore D hardness ranges from 10 to 30, preferably 12 to 20 on the Shore D scale, see col. 6:26-38. This teaching of Shore D hardness is directed to an intermediate curing step product prior to the final molding process to finish the golf ball. Exhibit C demonstrates the actual finished golf ball product having the cover layer that Wu teaches within its disclosure. Exhibit C teaches that the golf ball taught therein is covered by the following patents: 4,783,078; 4,846,910; 4,858,923; 4,904,320; 4,915,390; 5,007,594; 5,080,367; 5,133,509; **5,334,673**; and D339,074. The ‘673 Patent teaches the cover sock of the Exhibit C finished golf ball. Exhibit C teaches that the golf ball taught therein has a cover material made from an “elastomer”, having a thickness of .050”, and 58 Shore D hardness. All three properties are within the range of mechanical properties of the claim invention (polyurethane is an elastomer, cover layer thickness ranges from 0.010 to 0.070 inches and the Shore D hardness is less than 64). Because it has been admitted by the inventor of the Sullivan ‘893 patent that the particular chemical properties of the materials (the chemical composition) used in the construction of a golf ball lack criticality as compared to the mechanical properties (the Shore D hardness, flexural modulus, layer thickness) of those compounds used for constructing the different layers (Exhibit G at 334), one of ordinary skill in the art at the time the invention was made would find it obvious to incorporate the teachings of Wu which inherently include the teachings of Shore hardness for the fully cured cover layer as taught in Exhibit C as obvious equivalent materials in order to achieve the same end result of providing a cover layer that has the same “click” and “feel” of a balata cover which the extra durability of an elastomeric material.

Application/Control Number:  
95/000,123  
Art Unit: 3993

Page 26

This rejection of claim 1 based on Nesbitt in view of Wu was proposed by the third party requester in the request for reexamination and is being adopted essentially as proposed in the request.

### Ground 3: Patent Owner's Argument

Patent Owner argues that the combination of Nesbitt and Wu is improper because: (1) the Wu patent is silent on the thickness of the polyurethane layer (Patent Owner's Response at page 20); (2) the Wu patent is silent on the Shore hardness value and in a deposition Ms. Wu said she could not predict what the hardness would be of a finished golf ball (Patent Owner's Response at page 20); (3) the Titleist 1 ball, which Examiner uses to disclose the proper hardness of the outer layer, or cover, because the ball's commercial literature lists the Wu patent, is not competent evidence because Wu's patent's claims are silent as to hardness (Patent Owner's Response at bottom of page 20 to top of page 21); (4) the claimed invention is the synergistic combination of features and the Examiner impermissibly uses hindsight to reassemble the ball (Patent Owner's Response at bottom of page 21 to top of page 22); and, (5) the BPAI's divided opinion (the decision in *Ex parte Sullivan*) is not binding and the claim here is more narrow (Patent Owner's Response at page 22).

### Ground 3: Third Party Requester's Comments

As to the Patent Owner's first argument, the Third Party Requester states that Nesbitt discloses the claimed thickness at its claim 6 (Third Party Requester's Comments at bottom of page 23).

Application/Control Number:  
95/000,123  
Art Unit: 3993

Page 27

As to the Patent Owner's second argument, the Third Party Requester states that Nesbitt discloses the claimed Shore D hardness value at col. 2, lines 43-49, when used with and the Surlyn Data Sheet (Third Party Requester's Comments at bottom of page 23).

As to the Patent Owner's fourth argument, the Third Party Requester states that motivation to make this combination is found as stated in the opinion of *ex parte Sullivan* (Third Party Requester's Comments at middle of page 22).

As to the Patent Owner's fifth argument, the Third Party Requester states that the opinion in *Ex parte Sullivan* sets forth cogent reasoning for the combination and the differences in scope between the claims are either explicitly disclosed or inherent to Nesbitt or Wu, or mere design choice (Third Party Requester's Comments at pages 22-24).

### Ground 3: Examiner's Response to the Argument and Comments

Examiner agrees with the comments of the Third Party Requester and the rejection of claim 1 under 35 USC 103(a) as being obvious by Nesbitt in view of Wu is maintained. As to the Patent Owner's first and second arguments, Nesbitt discloses an overlapping thickness range for the outer cover of 0.020 inches to 0.100 inches (col. 3, lines 22-25) and its Shore hardness value of 55 ("Surlyn 1855" of col. 3, lines 22-25, which has a Shore D hardness of 55 (from Surlyn data sheet for Surlyn 9020)) which is less than the claimed value of 64.

As to the Patent Owner's third argument, Examiner considers the Wu patent to describe the Titleist cover because the patent and the Titleist's commercial literature have characteristics in common such as being "cut-resistant" (Wu patent at col. 2 line 41; Titleist 1's commercial literature at text above "Titleist Professional Specifications") and ball velocities of 253.0 ft./sec.

Application/Control Number:  
95/000,123  
Art Unit: 3993

Page 28

(Wu patent at col. 8 Table IV; Titleist 1's commercial literature at "Titleist Professional Specifications"). These two characteristics combined with the fact that the Titleist 1 cites the Wu patent leads to the conclusion that the cover of the Titleist 1 is within the ambit of the composition claimed in the Wu patent. Hence, the Titleist 1 commercial literature accurately recites other characteristics on which the Wu patent is silent, such as Shore D hardness. Whether Wu, herself, knew the hardness of an outer layer made of her composition is not dispositive because of the commercial literature for the Titleist 1.

As to the Patent Owner's fourth and fifth arguments, the combination is proper because the Supreme Court has held that "[w]hen there is a design need or market pressure to solve a problem and there are a finite number of identified, predictable solutions, a person of ordinary skill has good reason to pursue the known options within her or her grasp. If this leads to the anticipated success, it is likely the product not of innovation but of ordinary skill and common sense" (slip opinion *KSR* at middle of page 17). Here, the problem of producing a golf ball with distance, durability, "click," and feel was known (Patent Owner's Response at bottom of page 4). Polyurethane was a known solution for providing "click" and feel (Wu at col. 1 lines 40-46). Nesbitt discloses that a golf ball with his inner and outer thicknesses have both distance feel (*generally* Nesbitt at col. 1, lines 65-78, continuing to col. 2, lines 1-9). The resulting two-layer golf ball with an outer polyurethane layer had the expected results (*Sullivan* at page 12) and not, therefore, synergistic. Thus, the golf balls disclosed by the combination of Nesbitt and Wu are of ordinary skill and common sense. Since this combination has the elements cited in claim 1 of *Sullivan* '873, the decision in *Ex parte Sullivan* is supportive but not dispositive or binding.

Application/Control Number:  
95/000,123  
Art Unit: 3993

Page 29

**Proposed third party requester rejection: Ground #4**

The requester submits on pages 20-22 of the request that claim 1 is unpatentable under 35 U.S.C. § 103(a) as being obvious over Nesbitt, U.S. Pat. No. 4,431,193, in view of Molitor et al., U.S. Pat. No. 4,674,751, (Molitor '751).

Claim 1 is rejected under 35 U.S.C. § 103(a) as being unpatentable over Nesbitt mentioning Molitor '637 in view of Molitor '751.

Below is a claim chart identifying the claim limitations and where Nesbitt discloses, teaches or suggests the claim limitations. As reported in the Order granting reexamination, it needs to be correctly stated on the record that Nesbitt and Molitor '637 which is mentioned in Nesbitt teach the use of particular polyurethane materials for the use as an outer layer.

Claim 1	Nesbitt (primary) mentioning Molitor '637 with Molitor '751 (teaching)
A golf ball comprising:	"The disclosure embraces a <b>golf ball</b> and method of making the same..." (Nesbitt, Abstract; and FIGS. 1 & 2)
a core;	"Referring to the drawings in detail there is illustrated a golf ball 10 which comprises a <b>solid center or core</b> formed as a solid body of resilient polymeric material or rubber-like material in the shape of a sphere. (Nesbitt, col. 2, ll. 31-34).
an inner cover layer disposed on said core,	"Disposed on the spherical center or core 12 is a first layer, lamination, ply or <b>inner cover</b> 14 of molded hard, highly flexural modulus resinous material...." (Nesbitt, col. 2, ll. 34-37).
said inner cover layer having a thickness of from about 0.100 to about 0.010 inches,	"It is found that the inner layer of hard, high flexural modulus resinous material such as SURLYN resin type 1605, is preferably of a thickness <b>in the range of 0.020 inches and 0.070 inches.</b> " (Nesbitt, col. 3, ll. 19-23).
said inner cover layer comprising a blend of two or more ionomer resins, at least one of which contains no more than 16% by weight of alpha, beta-unsaturated carboxylic acid; and	"Reference is made to the application Ser. No. 155,658 of Robert P. <b>Molitor</b> issued into U.S. Pat. No. 4,274,637 which describes a number of foamable compositions of a character which may be employed for ... layers 14 ... for the golf ball of this invention." (Nesbitt, col. 3, ll. 54-60). <b>Molitor '637:</b> Molitor teaches, in examples 1-7, cover materials including a blend of two ionomer resins: SURLYN 1605 and

Application/Control Number:  
95/000,123  
Art Unit: 3993

Page 30

	SURLYN 1557. (Molitor '637, col. 14, l. 22 to col. 16, l. 34).
an outer cover layer disposed on said inner cover layer,	"An <b>outer layer</b> , ply, lamination or <b>cover 16</b> ... is then <b>remolded onto the inner ply or layer 14</b> ..." (Nesbitt, col. 2, ll. 43-47).
said outer cover layer having a thickness of 0.010 to 0.070 inches,	"The <b>thickness of the outer layer or cover 16</b> of soft, low flexural modulus resin such as SURLYN type 1855, <b>may be in the range of 0.020 inches and 0.100 inches.</b> " (Nesbitt, col. 3, ll. 22-25).
and said outer cover layer comprising a polyurethane material,	<b>Molitor '637</b> : ESTANE 58133 is a polyurethane material. (Molitor, col. 18)
wherein said golf ball has an overall diameter of 1.680 inches or more,	"According to the United States Golf Association Rules, the minimum diameter prescribed for a golf ball is 1.680 inches ..." (Nesbitt, col. 2: ll. 50-52). "This center or core 12 and inner layer of hard resinous material in the form of a sphere is then remolded into a dimpled golf ball of a diameter of 1.680 inches minimum with an outer or cover layer 16 of a soft, low flexural modulus resin ..." (Nesbitt, col. 3, ll. 34-38).
said inner cover layer having a Shore D hardness of at least 60,	"[I]nner cover 14 of molded hard, high flexural modulus resinous material such as type 1605 SURLYN marketed by E.I. DuPont de Nemours." (Nesbitt, col. 2, ll. 36-38). Sullivan '873 Patent: "Type 1605 SURLYN (now designated SURLYN 8940) ('873 patent, col. 2, ll. 46-47.
and said outer cover layer having a Shore D hardness of less than 64.	<b>Molitor '637</b> teaches in TABLE 10 an outer layer made from a thermoplastic polyurethane identified as ESTANE 58133.

As shown above in the claim chart, Nesbitt mentioning Molitor '637 suggests the use of a soft outer cover layer including a polyurethane material. In an analogous golf ball, Molitor '751 teaches that:

It has now been discovered that a key to manufacturing a two-piece ball having playability properties similar to wound, balata-covered balls is to provide about an inner resilient molded core a **cover having a shore C hardness less than 85, preferably 70-80, and most preferably 72-76.** The novel cover of the golf ball of the invention is made of a composition comprising a blend of (1) a **thermoplastic urethane having a shore A hardness less than 95** and (2) an **ionomer having a shore D hardness greater than 55.**

(Molitor '751, col. 2, ll.33-49 (emphasis added)).

Moreover, in explaining what constitutes a two-piece golf ball, Molitor '751 teaches that:



Application/Control Number:  
95/000,123  
Art Unit: 3993

Page 31

The phrase "two piece ball" as used herein refers primarily to balls consisting of a molded core and a cover, but also includes balls having a separate solid layer beneath the cover as disclosed, for example, in U.S. Pat. No. 4,431,193 to Nesbitt, and other balls have non-wound cores.

(Molitor '751, col. 3, ll. 7-12 (emphasis added)).

As stated above, Molitor '751 teaches the cover of the golf ball has a Shore C hardness of less than 85, preferably 70-80, most preferably 72-76. As described in Molitor '751's TABLE bridging columns 7 and 8, Sample 8 constitutes one of the preferred embodiments and its cover is taught to have a Shore C hardness of 73. Patent Owner has admitted that a Shore C hardness of 73 is equal to a Shore D hardness of 47, *see* U.S. Pat. No. 6,905,648, Table 19 (Exhibit L). Thus, a cover having a Shore C hardness of between 72 and 76 will inherently have a Shore D hardness of less than 64.

How one of ordinary skill in the art would discover this inherent mechanical property of Shore D hardness for the polyurethane material used in Molitor '751 is by "translating" a Shore C value to a Shore D value for the polyurethane material. How one of ordinary skill in the art "translates" a Shore C value to a Shore D value is by taking the known Shore hardness values with a given range, in this instance Shore C, for given materials, in this instance polyurethane golf ball covers materials, and taking corresponding measurements with a different set of Shore gauges, in this instance Shore D (but could also be Shore A). A resulting trendline plot occurs from performing this procedure wherein the range of known Shore C values are the abscissa and the range of measured Shore D values are the ordinate. Then, said plot can be use to read equivalent Shore D value for any given Shore C value within the known range of Shore C. This is how one of ordinary skill in the art can know the equivalent Shore D or even Shore A hardness value for any given Shore C hardness value.

Application/Control Number:  
95/000,123  
Art Unit: 3993

Page 32

As stated in the request on page 21

It would have been obvious to one of ordinary skill in the art at the time of the invention to substitute the soft outer cover layer of Nesbitt and replace it with an outer cover layer made of the soft polyurethane material taught by Molitor '751 to provide a golf ball that includes "playability properties as good or better than balata-covered wound balls but are significantly more durable," and "have better wood playability properties than conventional two-piece balls, and permit experienced golfers to apply spin so as to fade or draw a shot" while having improved puttability. (Molitor '751, col. 2, ll. 61-68)

This rejection of claim 1 based on Nesbitt in view of Molitor '751 was proposed by the third party requester in the request for reexamination and is being adopted essentially as proposed in the request.

#### Ground 4: Patent Owner's Argument

The Patent Owner argues that the rejection is improper because: (1) Molitor '751 describes the cover of his golf ball with hardness values in terms of Shore C, hence, one of ordinary skill would not look to combine this teaching with the patent of Nesbitt, with hardness values recorded in terms of Shore D, because the two hardness values, or scales, have no simple mathematical correlation (Patent Owner's Response at page 23); and, (2) no motivation to combine Nesbitt with Molitor '751 because the Molitor '751 ball's construction is a hard core with a soft cover, the cover having a thickness twice the thickness of the Sullivan '873 claims and an order of magnitude softer (Patent Owner's Response at top of page 24).

#### Ground 4: Third Party Requester's Comments

Application/Control Number:  
95/000,123  
Art Unit: 3993

Page 33

Third Party Requester counter argues that, for argument (1) hardness values of Shore C and Shore D are convertible as evidenced by, *inter alia*, the Sullivan '873 patent itself (Third Party Requester's Comments at bottom of page 25). For argument (2), the Third Party Requester states that motivation to combine exists because, *inter alia*, Molitor '751, itself, states that its cover can be used with the three-piece, two-cover golf ball of Nesbitt (Third Party Requester's Comments at bottom of page 27).

#### Ground 4: Examiner's Response to the Argument and Comments

Examiner agrees with the comments of the Third Party Requester, and the rejection of claim 1 under 35 USC 103(a) as being obvious by Nesbitt in view of Molitor '751 is maintained. As to the Patent Owner's first argument, Examiner specifically agrees with the Third Party Requester's comments that a correlation, or conversion, exists between the two hardness scales, Shore C and Shore D, because Sullivan '873 give a conversion of the two scales at col. 3, lines 42-43. Further, the quote used by the Patent Owner from the ASTM D-2240 standard stating that "no simple relationship exists" (Patent Owner's Response at middle of page 23) does not preclude a conversion factor, even if complex. Since the Supreme Court has recently held that "[a] person of ordinary skill is also a person of ordinary creativity, not an automaton," even a complex calculation suffices to permit conversion of the two scales (slip opinion of *KSR* at middle of page 17). Hence, one of ordinary skill would not be deterred from use of prior art regardless of the hardness scale used to define its various layers.

As to the second argument, Examiner considers the language of the Molitor '751 that "[t]he phrase "two piece ball" as used herein refers primarily to balls consisting of a molded core

Application/Control Number:  
95/000,123  
Art Unit: 3993

Page 34

and a cover, but also includes balls having a separate solid layer beneath the cover as disclosed, for example, in U.S. Pat. No. 4,431,193 to Nesbitt, and other balls, having non-wound cores” provides motivation to combine the two references. Molitor ‘751 provides motivation, for example, at col. 1, lines 11-15, where it states that the invention is concerned with a “golf ball useful in making balls, particularly two-piece balls, having superior short iron and other playability characteristics.”

Further, the Supreme Court has held that “[w]hen there is a design need or market pressure to solve a problem and there are a finite number of identified, predictable solutions, a person of ordinary skill has good reason to pursue the known options within her or her grasp. If this leads to the anticipated success, it is likely the product not of innovation but of ordinary skill and common sense” (slip opinion KSR at middle of page 17). Here, the problem of producing a golf ball with distance, durability, “click,” and feel was known (Patent Owner’s Response at bottom of page 4). Polyurethane was a known solution for providing playability properties (Molitor ‘751 at abstract). The resulting golf ball with a polyurethane outer cover had the expected results (Sullivan ‘873 at abstract). Thus, the golf ball disclosed in claim 1 of Sullivan ‘873 is of ordinary skill and common sense.

As to the argument of different thicknesses of the layers, Nesbitt discloses the thickness of an inner layer being in a range from 0.020 inches to 0.070 inches at col. 3, lines 19-25. These ranges overlap the ranges of claim 1. Finally, for the argument of a Shore value of at least 60 for the inner cover, Nesbitt discloses use of “hard, highly flexural modulus resinous material such as type 1605 Surlyn” for this layer at col. 2, lines 36-39. Surlyn 1605, now Surlyn 8940, has a Shore D hardness of 65 (Third Party Requester’s Comments at page 27, n.82).

Application/Control Number:  
95/000,123  
Art Unit: 3993

Page 35

**Proposed third party requester rejection: Ground #5**

The requester submits on pages 22-25 of the request that claim 1 is unpatentable under 35 U.S.C. § 103(a) as being obvious over Proudfit, U.S. Pat. No. 5,314,187, (Proudfit) in view of Molitor et al., U.S. Pat. No. 4,274,637, (Molitor '637).

Claim 1 is rejected under 35 U.S.C. § 103(a) as being unpatentable over Proudfit in view of Molitor '637.

Below is a claim chart identifying the claim limitations and where Proudfit discloses, teaches or suggests certain claim limitations.

Claim 1	Proudfit
A golf ball comprising:	"This invention relates to golf balls, and more particularly, to a golf ball having a two-layer cover." (Proudfit, col. 1, ll. 11-12)
a core;	"FIG. 1 illustrates a two-piece golf ball 10 which includes a solid core 11 and a cover 12 which comprises a relatively hard inner layer 13 of one or more ionomer resins and a relatively soft outer layer 14 of polymeric material." (Proudfit, col. 7, ll. 21-24) "Two specific solid core compositions used with the new two-layer cover had the composition describe in Table 1. One core was used in a golf ball which was designated as a 90 compression ball, and the other core was used in a golf ball which was designated as a 100 compression ball." (Proudfit, col. 7, ll. 51-55)
an inner cover layer disposed on said core,	"FIG. 1 illustrates a two-piece golf ball 10 which includes a solid core 11 and a cover 12 which comprises a relatively hard inner layer 13 of one or more ionomer resins and a relatively soft outer layer 14 of polymeric material." (Proudfit, col. 7, ll. 21-24)
said inner cover layer having a thickness of from about 0.100 to about 0.010 inches,	"The thickness of the inner layer can be within the range of about 0.0250 to 0.2875 inch to provide a total diameter of the inner layer and core within the range of about 1.550 to 1.590 inch." (Proudfit, col. 7, ll. 37-40) "The preferred dimensions are ... and inner layer thickness of 0.037 inch..." (Proudfit, col. 7, ll. 43-44)

Application/Control Number:  
95/000,123  
Art Unit: 3993

Page 36

said inner cover layer comprising a blend of two or more ionomer resins, at least one of which contains no more than 16% by weight of alpha, beta-unsaturated carboxylic acid; and	<p>"The composition of the inner cover layer is described in Table 6."</p> <p style="text-align: center;"><b>TABLE 6</b></p> <table border="1"> <thead> <tr> <th colspan="2">Composition of Inner Layer of Cover (Parts by Weight)</th></tr> <tr> <th>Ionomer Type</th><th>Blend Ratio</th></tr> </thead> <tbody> <tr> <td>Sodium- Surllyn 8940</td><td>75%</td></tr> <tr> <td>Zinc- Surllyn 9910</td><td>25%</td></tr> </tbody> </table> <p>(Proudfit, col. 8, ll. 22-30)</p>	Composition of Inner Layer of Cover (Parts by Weight)		Ionomer Type	Blend Ratio	Sodium- Surllyn 8940	75%	Zinc- Surllyn 9910	25%
Composition of Inner Layer of Cover (Parts by Weight)									
Ionomer Type	Blend Ratio								
Sodium- Surllyn 8940	75%								
Zinc- Surllyn 9910	25%								
an outer cover layer disposed on said inner cover layer,	"FIG. 1 illustrates a two-piece golf ball 10 which includes a solid core 11 and a <b>cover 12</b> which comprises a relatively hard inner layer 13 of one or more ionomer resins <b>and a relatively soft outer layer 14 of polymeric material.</b> " (Proudfit, col. 7, ll. 21-24)								
said outer cover layer having a thickness of 0.010 to 0.070 inches,	"The thickness of the outer layer can be within the range of about 0.0450 to 0.0650 inch to provide a total ball diameter of 1.680 inch. The preferred dimensions are ... an outer layer thickness of 0.0525 inch...." (Proudfit, col. 7, ll. 40-46)								
and said outer cover layer comprising a polyurethane material,	"... an <b>outer layer</b> of soft material such as balata or a <b>blend of balata and other elastomers.</b> " (Proudfit, col. 5, ll. 15-17)								
wherein said golf ball has an overall diameter of 1.680 inches or more,	"The preferred dimensions are a core diameter of 1.500 inch, and inner layer thickness of 0.037 inch (inner layer diameter of 1.575 inch). and an outer layer thickness of 0.0525 inch ( <b>total ball diameter of 1.680 inch</b> )." (Proudfit, col. 7, ll. 43-47)								
said inner cover layer having a Shore D hardness of at least 60,	<p>"The composition of the inner cover layer is described in Table 6."</p> <p style="text-align: center;"><b>TABLE 6</b></p> <table border="1"> <thead> <tr> <th colspan="2">Composition of Inner Layer of Cover (Parts by Weight)</th></tr> <tr> <th>Ionomer Type</th><th>Blend Ratio</th></tr> </thead> <tbody> <tr> <td>Sodium- Surllyn 8940</td><td>75%</td></tr> <tr> <td>Zinc- Surllyn 9910</td><td>25%</td></tr> </tbody> </table> <p>(Proudfit, col. 8, ll. 22-30)</p> <p>See below with respect to Shore D hardness.</p>	Composition of Inner Layer of Cover (Parts by Weight)		Ionomer Type	Blend Ratio	Sodium- Surllyn 8940	75%	Zinc- Surllyn 9910	25%
Composition of Inner Layer of Cover (Parts by Weight)									
Ionomer Type	Blend Ratio								
Sodium- Surllyn 8940	75%								
Zinc- Surllyn 9910	25%								
and said outer cover layer having a Shore D hardness of less than 64.	"...an <b>outer layer</b> of soft material such as balata or a blend of balata and other elastomers." (Proudfit, col. 5, ll. 15-17) This material inherently has a Shore D hardness of less than 64, see the reasoning below.								

Application/Control Number:  
95/000,123  
Art Unit: 3993

Page 37

As shown above Proudfit discloses, teaches and suggests a three-piece golf ball (core, inner layer and outer layer) with the layers within the range of claimed thicknesses each layer made from a material having the mechanical properties substantially similar to the claimed mechanical properties. What Proudfit lacks in clearly disclosing are the particular mechanical and chemical properties of the claimed invention. However, Proudfit either incorporates by reference these mechanical and chemical properties and/or the materials used within the Proudfit golf ball inherently have these mechanical and chemical properties. For instance, Proudfit incorporates by reference U.S. Pat. No. 4,690,981 in the background of this invention. (Proudfit, col. 1, ll.39-43). The '981 patent discloses the preferably amount of unsaturated carboxylic acid is "from about 5[%] to about 15% by weight." ('981 Pat, col. 3, ll. 59-60). If Proudfit discloses using blends SURLYN the chemical for making the inner cover and the '981 Patent is the formulation for ionomer known in the art as SURLYN, then inherently grades of SURLYN such as SURLYN 8940 and SURLYN 9910 would be low acid ionomer resins containing no more than 16% by weight of an alpha, beta-unsaturated carboxylic acid. As taught from Exhibit I, SURLYN 8940 has a Shore D hardness of 65; SURLYN 9910 has a Shore D hardness of 64, see Exhibit I. Therefore, this cover blend inherently has a hardness of 60 or more. Proudfit discloses the outer layer being a blend of balata. An example of the blend is disclosed in Table 7 reproduced below.



Application/Control Number:  
95/000,123  
Art Unit: 3993

Page 38

<b>TABLE 7</b>	
<b>Composition of Outer Layer (Parts by Weight)</b>	
Trans Polyisoprene (TP-301)	60.00
Polybutadiene	40.00
Zinc Oxide	5.00
Titanium Dioxide	17.00
Ultramarine Blue color	.50
Zinc DiAcrylate	35.00
Peroxide (Varox 230 XL)	2.50
<b>Total</b>	<b>160.00</b>

Note that Trans PolyIsoprene is basically the chemical name for balata and Polybutadiene is one of the first types of synthetic rubber or elastomer. As described in the Rule 132 Declaration of Edmund A. Hebert, the outer cover layer disclosed in Proudfit is the outer cover layer for the golf ball disclosed in Exhibit A and that cover has a Shore D hardness of 52. Thus, Proudfit's outer layer cover inherently has a Shore hardness of less than 64.

While Proudfit lacks disclosing the outer layer being made from polyurethane, in an analogous golf ball, Molitor '637 teaches using polyurethane, see Molitor '637, col. 5, ll. 33-41 and col. 18, examples 16 and 17. The request points out on page 25, ll. 7-15, why the use of polyurethane to one of ordinary skill in the art would be readily apparent given that those skilled in the art were more critical of the mechanical properties of a particular material than the chemical composition (material type) of the material and those remarks are incorporated herein. In other words, it was not critical to the "golf ball inventions" of those skilled in the art as to what materials were used to construct the golf balls so long as the materials had the desired mechanical properties which would yield the particular mechanical performance parameters the inventors were trying to achieve, e.g. improved processability; improved durability; cost effectiveness; user acceptance of performance (similar "click" and "feel" to balata) of the golf ball product made from those materials. The request on page 25, ll. 16-25, explains why one of

Application/Control Number:  
95/000,123  
Art Unit: 3993

Page 39

ordinary skill in the art would be motivated to substitute the outer cover layer taught in Molitor '637 for the outer cover layer disclosed in Proudfit and those remarks are incorporated herein.

Therefore, one of ordinary skill in the art would find the claimed invention as obvious for the motivation given in the request on page 25, ll. 16-25.

This rejection of claim 1 based on Proudfit in view of Molitor '637 was proposed by the third party requester in the request for reexamination and is being adopted essentially as proposed in the request.

#### Ground 5: Patent Owner's Argument

The Patent Owner argues that the rejection is improper because: (1) Proudfit does not describe a golf ball with an outer layer with a Shore D hardness value of 64 or less because the Hebert Declaration's analysis of the Wilson Ultra Tour (as representative of the Proudfit patent) is not correct (Patent Owner's Response middle of page 25 to middle of page 27); (2) the thickness of Molitor '637's cover layer cannot be combined with thickness of Proudfit's cover layer which is significantly thinner (Patent Owner's Response middle of page 27); and, (3) the rejection is impermissible hindsight reconstruction of substitution of materials when the invention, exemplified by the Titleist Pro V1, is a commercial blockbuster (Patent Owner's Response bottom of page 27 to top of page 28).

#### Ground 5: Third Party Requester's Comments

Third Party Requester counter argues that, for argument (1) the Wilson Ultra Tour is representative of the Proudfit patent because both disclose a three-piece golf ball with an outer

Application/Control Number:  
95/000,123  
Art Unit: 3993

Page 40

cover layer of cis-polybutadiene and synthetic balata (trans-polyisoprene), an inner layer of Na and Zn Surlins, and a compression of 100 (Third Party Requester's Comments at page 31); (2) the thickness layers in the two patents overlap hence one of ordinary skill would realize that the cover materials could be substituted (Third Party Requester's Comments at page 29); and (3) the motivation set forth in the rejection by the Examiner satisfies the requirements *KSR* and is consistent with the motivation to combine Nesbitt and WU identified by the BPAI (Third Party Requester's Comments at middle of page 30) and that the '873 claim does not disclose the Titleist Pro V1 golf ball (Third Party Requester's Comments at pages 34-37).

#### Ground 5: Examiner's Response to the Argument and Comments

Examiner agrees with the comments of the Third Party Requester, and the rejection of claim 1 under 35 USC 103(a) as being obvious by Proudfit in view of Molitor '637 is maintained. As to the Patent Owner's first argument, the Examiner accepts the Hebert Declaration as competent evidence because it is a sworn declaration. As such, the Examiner will not probe the Declarant's veracity. Since the Wilson Pro Tour had an outer cover made of c-polybutadiene and synthetic balata (trans-polyisoprene) with a Shore D hardness of 52 (Exhibit A of Hebert Declaration), the over cover of Proudfit is considered to have the same hardness value since its composition is the same (Proudfit at col. 8, Table 7; *see* MPEP 2112.01(II)).

As to Patent Owner's second argument, Proudfit discloses that the outer cover can be from 0.0450 to 0.0650 inches in thickness. Molitor '637 discloses an outer cover thickness of 0.060 inches or thicker (Molitor '637 at col. 5, lines 3-7). Since these values overlap in the

Application/Control Number:  
95/000,123  
Art Unit: 3993

Page 41

region of 0.060 inches, one of ordinary skill would find it obvious to look to Molitor '637 for an outer cover for the golf ball of Proudfit.

As to Patent Owner's third argument, Examiner considers the language of Molitor '637 that "one skilled in the art can produce a golf ball having the desirable qualities of both Balata and Surlyn resin covered golf balls" (Molitor '637 at col. 2, lines 43-45) to provide motivation to combine the two references. One of the compositions disclosed by Molitor '637 is polyurethane (Molitor '637 at col. 5, lines 33-55). Therefore, one of ordinary skill, having the three-piece ball disclosed by Proudfit would look to Molitor '637 for over cover material to achieve a golf ball with the desired qualities of Balata and Surlyn.

Further, the Supreme Court has held that "[w]hen there is a design need or market pressure to solve a problem and there are a finite number of identified, predictable solutions, a person of ordinary skill has good reason to pursue the known options within her or her grasp. If this leads to the anticipated success, it is likely the product not of innovation but of ordinary skill and common sense" (slip opinion KSR at middle of page 17). Here, the problem of producing a golf ball with distance, durability, "click," and feel was known (Patent Owner's Response at bottom of page 4). Polyurethane was a known solution for providing playability properties (Molitor '637 at abstract). The resulting golf ball with a polyurethane outer cover had the expected results (Sullivan '873 at abstract). Thus, the golf ball disclosed in claim 1 of Sullivan '873 is of ordinary skill and common sense.

The Examiner does not reach the argument proffered by the Patent Owner that the Titleist Pro V1 golf ball exemplifies the instant claim language.

Application/Control Number:  
95/000,123  
Art Unit: 3993

Page 42

**Proposed third party requester rejection: Ground #6**

The requester submits on pages 26-27 of the request that claim 1 is unpatentable under 35 U.S.C. § 103(a) as being obvious over Proudfit, U.S. Pat. No. 5,314,187, in view of Wu, U.S. Pat. No. 5,334,673.

Claim 1 is rejected under 35 U.S.C. § 103(a) as being unpatentable over Proudfit in view of Wu.

Below is a claim chart identifying the claim limitations and where Proudfit discloses, teaches or suggests certain claim limitations.

Claim 1	Proudfit
A golf ball comprising:	"This invention relates to golf balls, and more particularly, to a golf ball having a two-layer cover." (Proudfit, col. 1, ll. 11-12)
a core;	"FIG. 1 illustrates a two-piece golf ball 10 which includes a solid core 11 and a cover 12 which comprises a relatively hard inner layer 13 of one or more ionomer resins and a relatively soft outer layer 14 of polymeric material." (Proudfit, col. 7, ll. 21-24) "Two specific solid core compositions used with the new two-layer cover had the composition describe in Table 1. One core was used in a golf ball which was designated as a 90 compression ball, and the other core was used in a golf ball which was designated as a 100 compression ball." (Proudfit, col. 7, ll. 51-55)
an inner cover layer disposed on said core,	"FIG. 1 illustrates a two-piece golf ball 10 which includes a solid core 11 and a cover 12 which comprises a relatively hard inner layer 13 of one or more ionomer resins and a relatively soft outer layer 14 of polymeric material." (Proudfit, col. 7, ll. 21-24)
said inner cover layer having a thickness of from about 0.100 to about 0.010 inches,	"The thickness of the inner layer can be within the range of about 0.0250 to 0.2875 inch to provide a total diameter of the inner layer and core within the range of about 1.550 to 1.590 inch." (Proudfit, col. 7, ll. 37-40) "The preferred dimensions are ... and inner layer thickness of 0.037 inch..." (Proudfit, col. 7, ll. 43-44)
said inner cover layer comprising a blend of two or more ionomer resins, at least	"The composition of the inner cover layer is described in Table 6."

Application/Control Number:  
95/000,123  
Art Unit: 3993

Page 43

one of which contains no more than 16% by weight of alpha, beta-unsaturated carboxylic acid; and	<p style="text-align: center;"><b>TABLE 6</b></p> <table border="1" style="margin: auto;"> <thead> <tr> <th colspan="2">Composition of Inner Layer of Cover (Parts by Weight)</th></tr> <tr> <th>Ionomer Type</th><th>Blend Ratio</th></tr> </thead> <tbody> <tr> <td>Sodium- Surlin 8940</td><td>75%</td></tr> <tr> <td>Zinc- Surlin 9910</td><td>25%</td></tr> </tbody> </table> <p>(Proudfit, col. 8, ll. 22-30)</p>	Composition of Inner Layer of Cover (Parts by Weight)		Ionomer Type	Blend Ratio	Sodium- Surlin 8940	75%	Zinc- Surlin 9910	25%
Composition of Inner Layer of Cover (Parts by Weight)									
Ionomer Type	Blend Ratio								
Sodium- Surlin 8940	75%								
Zinc- Surlin 9910	25%								
an outer cover layer disposed on said inner cover layer,	<p>"FIG. 1 illustrates a two-piece golf ball 10 which includes a solid core 11 and a <b>cover 12</b> which comprises a relatively hard inner layer 13 of one or more ionomer resins <b>and a relatively soft outer layer 14 of polymeric material.</b>" (Proudfit, col. 7, ll. 21-24)</p>								
said outer cover layer having a thickness of 0.010 to 0.070 inches,	<p>"The thickness of the outer layer can be within the range of about 0.0450 to 0.0650 inch to provide a total ball diameter of 1.680 inch. The preferred dimensions are ... an outer layer thickness of 0.0525 inch...." (Proudfit, col. 7, ll. 40-46)</p>								
and said outer cover layer comprising a polyurethane material,	<p>"... an <b>outer layer</b> of soft material such as balata or <b>a blend of balata and other elastomers.</b>" (Proudfit, col. 5, ll. 15-17)</p>								
wherein said golf ball has an overall diameter of 1.680 inches or more,	<p>"The preferred dimensions are a core diameter of 1.500 inch, and inner layer thickness of 0.037 inch (inner layer diameter of 1.575 inch). and an outer layer thickness of 0.0525 inch (<b>total ball diameter of 1.680 inch</b>)." (Proudfit, col. 7, ll.43-47)</p>								
said inner cover layer having a Shore D hardness of at least 60,	<p>"The composition of the inner cover layer is described in Table 6."</p> <p style="text-align: center;"><b>TABLE 6</b></p> <table border="1" style="margin: auto;"> <thead> <tr> <th colspan="2">Composition of Inner Layer of Cover (Parts by Weight)</th></tr> <tr> <th>Ionomer Type</th><th>Blend Ratio</th></tr> </thead> <tbody> <tr> <td>Sodium- Surlin 8940</td><td>75%</td></tr> <tr> <td>Zinc- Surlin 9910</td><td>25%</td></tr> </tbody> </table> <p>(Proudfit, col. 8, ll. 22-30)</p>	Composition of Inner Layer of Cover (Parts by Weight)		Ionomer Type	Blend Ratio	Sodium- Surlin 8940	75%	Zinc- Surlin 9910	25%
Composition of Inner Layer of Cover (Parts by Weight)									
Ionomer Type	Blend Ratio								
Sodium- Surlin 8940	75%								
Zinc- Surlin 9910	25%								
and said outer cover layer having a Shore D hardness of less than 64.	<p>"...an <b>outer layer of soft material</b> such as balata or a blend of balata and other elastomers." (Proudfit, col. 5, ll. 15-17) This material inherently has a Shore D hardness of less than 64, see the reasoning below.</p>								

As expressed in the request on page 26 and identified above within the claim chart, Proudfit teaches a golf ball have a two-piece cover including a hard, ionomeric inner cover layer and a soft balata blend outer cover layer. Proudfit lacks in disclosing the use of polyurethane as

Application/Control Number:  
95/000,123  
Art Unit: 3993

Page 44

the material for the outer cover layer. Instead, as shown in Table 7, reproduced below, Proudfit discloses the outer cover layer being made of a blend of balata.

<b>TABLE 7</b>	
<b>Composition of Outer Layer (Parts by Weight)</b>	
Trans Polyisoprene (TP-301)	60.00
Polybutadiene	40.00
Zinc Oxide	1.00
Titanium Dioxide	17.00
Ultramarine Blue color	.50
Zinc DiAcrylate	35.00
Peroxide (Varox 230 XL)	2.50
<b>Total</b>	<b>160.00</b>

However, those skilled in the art understand the disadvantages of balata covered golf balls. As admitted by the patent owner

Despite all the benefits of balata, balata covered golf balls are easily cut and/or damaged if mis-hit. Golf balls produced with balata or balata-containing cover compositions therefore have a relatively short lifespan.

(Sullivan '873, col. 1, ll. 39-42). The next step in golf ball cover technology to overcome the problems with balata was the use of SURLYN as an outer cover. However, as described in the request on page 26 Wu teaches the problem with SURLYN as a outer cover on a golf ball.

**The problem with SURLYN covered golf balls ... is that they lack the "click" and "feel" which golfers had become accustomed to with balata. "Click" is the sound when the ball is hit by a golf club and "feel" is the overall sensation imparted to the golfer when the ball is hit.**

It has been proposed to employ polyurethane as a cover stock for golf balls because, like SURLYN, it has a relatively low price compared to balata and provides superior cut resistance over balata. **However, unlike SURLYN covered golf balls, polyurethane-covered golf balls can be made to have the "click" and "feel" of balata.**

(Wu col. 1, ll. 36-46 (emphasis added)).

As explained in the request on page 26, line 22 through page 27, line 27 those skilled in the art at the time the claimed invention was made were more critical of the mechanical properties of the materials that constructed the layers which impacted the performance of the golf ball more than the materials themselves. See Exhibit G. As identified above Proudfit lacks



Application/Control Number:  
95/000,123  
Art Unit: 3993

Page 45

disclosing polyurethane as the outer cover layer. In analogous golf ball device, Wu's polyurethane material inherently has a flexural modulus of 23,000 psi as averred within the Rule 132 Declaration of Jeffrey L. Dalton at para. 7. Proudfit's outer cover layer material is disclosed as having a flexural modulus of between about 20,000 psi and 25,000 psi. (Proudfit, col. 6, ll. 28-31) Thus, Wu's cover material's flexural modulus falls within the range of Proudfit's cover material. Moreover, Wu's polyurethane material inherently has a Shore D hardness of about 58. See Decl. of Dalton at para. 6. Thus, as evidenced by this declaration, Wu's polyurethane material falls within the claimed range of the outer layer material have a Shore D hardness of less than 64.

Thus, as pointed out in the request on page 27, lines 3-18, one of ordinary skill in the art at the time the invention was made would find it obvious to substitute Wu's polyurethane golf ball cover material for Proudfit's balata-blend cover material for the advantages described in this part of the request which are incorporated herein.

This rejection of claim 1 based on Proudfit in view of Wu was proposed by the third party requester in the request for reexamination and is being adopted essentially as proposed in the request.

#### Ground 6: Patent Owner's Argument

The Patent Owner argues that the rejection is improper because: (1) while the patent of Wu describes the use of polyurethane as an outer cover, it discloses neither the thickness nor the Shore D hardness of this polyurethane layer (Patent Owner Response at middle of page 28); (2) Wu, herself, at her deposition could not predict the final hardness value of her cover (Patent

Application/Control Number:  
95/000,123  
Art Unit: 3993

Page 46

Owner Response at middle of page 28); (3) the Dalton Declaration is not competent evidence of the hardness value of Wu's polyurethane layer (Patent Owner Response at bottom of page 28); and, (4) no motivation to combine the references, absent hindsight, because motivation to try, *i.e.*, to substitute one material for another, is not the standard (Patent Owner Response at top of page 29).

#### Ground 6: Third Party Requester's Comments

Third Party Requester counter argues that, for argument (4), applying the standard of *KSR* would result in one of ordinary skill using polyurethane as a golf ball cover since it had been known for decades as an excellent golf ball material (Third Party Requester's Comments at middle of page 32). Further, the rationale of *Ex parte Sullivan* would equally apply here (Third Party Requester's Comments at middle of page 32).

#### Ground 6: Examiner's Response to the Argument and Comments

Examiner agrees with the comments of the Third Party Requester, and the rejection of claim 1 under 35 USC 103(a) as being obvious by Proudfit in view of Wu is maintained. As to the Patent Owner's first, second, and third argument, the Examiner accepts the Dalton Declaration as competent evidence because it is a sworn declaration. As such, the Examiner will not probe the Declarant's veracity. Hence, the Shore D hardness value for Wu's cover is considered to be 58. The thickness of the outer cover is found in Proudfit where it is disclosed that the thickness can be from 0.0450 to 0.0650 inches (Proudfit at col. 7, lines 40-47). Wu's deposition is not dispositive, here, because of the Dalton Declaration.

Application/Control Number:  
95/000,123  
Art Unit: 3993

Page 47

As to Patent Owner's fourth argument, Examiner considers the language of Wu, itself, to provide motivation to combine because golf balls made with polyurethane possess "improved shear resistance and cut resistance compared to golf balls having covers made from either balata or SURLYN" (Wu at col. 2, lines 29-32). Also, golf balls with polyurethane covers "can be made to have the "click" and "feel" of balata" (Wu at col. 1, lines 44-46). Therefore, one of ordinary skill, having the three-piece ball disclosed by Proudfit would look to Wu for outer cover material to achieve a golf ball with the desired qualities of Balata and Surllyn.

Further, the Supreme Court has held that "[w]hen there is a design need or market pressure to solve a problem and there are a finite number of identified, predictable solutions, a person of ordinary skill has good reason to pursue the known options within her or her grasp. If this leads to the anticipated success, it is likely the product not of innovation but of ordinary skill and common sense" (slip opinion *KSR* at middle of page 17). Here, the problem of producing a golf ball with distance, durability, "click," and feel was known (Patent Owner's Response at bottom of page 4). Polyurethane was a known solution for providing playability properties (Wu at col. 1 lines 27-46). The resulting golf ball with a polyurethane outer cover had the expected results (Sullivan '873 at abstract). Thus, the golf ball disclosed in claim 1 of Sullivan '873 is of ordinary skill and common sense.

Finally, the Court has explicitly approved of the "obvious to try" standard for combinations as above (slip opinion *KSR* at middle of page 17).

**Proposed third party requester rejection: Ground #7**

Application/Control Number:  
95/000,123  
Art Unit: 3993

Page 48

The requester submits on pages 27-29 of the request that claim 1 is unpatentable under 35 U.S.C. § 103(a) as being obvious over Proudfit, U.S. Pat. No. 5,314,187, (Proudfit) in view of Molitor et al., U.S. Pat. No. 4,674,751, (Molitor '751).

Claim 1 is rejected under 35 U.S.C. § 103(a) as being unpatentable over Proudfit in view of Molitor '751.

Below is a claim chart identifying the claim limitations and where Proudfit discloses, teaches or suggests certain claim limitations.

Claim 1	Proudfit
A golf ball comprising:	"This <b>invention relates to golf balls</b> , and more particularly, to a golf ball having a two-layer cover." (Proudfit, col. 1, ll. 11-12)
a core;	"FIG. 1 illustrates a two-piece golf ball 10 which includes a solid <b>core 11</b> and a cover 12 which comprises a relatively hard inner layer 13 of one or more ionomer resins and a relatively soft outer layer 14 of polymeric material." (Proudfit, col. 7, ll. 21-24) "Two specific solid core compositions used with the new two-layer cover had the composition describe in Table 1. One core was used in a golf ball which was designated as a 90 compression ball, and the other core was used in a golf ball which was designated as a 100 compression ball." (Proudfit, col. 7, ll. 51-55)
an inner cover layer disposed on said core,	"FIG. 1 illustrates a two-piece golf ball 10 which includes a solid core 11 and a <b>cover 12 which comprises a relatively hard inner layer 13 of one or more ionomer resins</b> and a relatively soft outer layer 14 of polymeric material." (Proudfit, col. 7, ll. 21-24)
said inner cover layer having a thickness of from about 0.100 to about 0.010 inches,	"The <b>thickness of the inner layer</b> can be within the range of <b>about 0.0250 to 0.2875 inch</b> to provide a total diameter of the inner layer and core within the range of about 1.550 to 1.590 inch." (Proudfit, col. 7, ll. 37-40) "The preferred dimensions are ... and <b>inner layer thickness of 0.037 inch...</b> " (Proudfit, col. 7, ll. 43-44)
said inner cover layer comprising a blend of two or more ionomer resins, at least one of which contains no more than 16% by weight of alpha, beta-unsaturated	"The composition of the inner cover layer is described in Table 6."

Application/Control Number:  
95/000,123  
Art Unit: 3993

Page 49

carboxylic acid; and	<p style="text-align: center;"><b>TABLE 6</b></p> <table border="1"> <thead> <tr> <th colspan="2">Composition of Inner Layer of Cover (Parts by Weight)</th></tr> <tr> <th>Ionomer Type</th><th>Blend Ratio</th></tr> </thead> <tbody> <tr> <td>Sodium- Surlyn 8940</td><td>75%</td></tr> <tr> <td>Zinc- Surlyn 9910</td><td>25%</td></tr> </tbody> </table> <p>(Proudfit, col. 8, ll. 22-30)</p>	Composition of Inner Layer of Cover (Parts by Weight)		Ionomer Type	Blend Ratio	Sodium- Surlyn 8940	75%	Zinc- Surlyn 9910	25%
Composition of Inner Layer of Cover (Parts by Weight)									
Ionomer Type	Blend Ratio								
Sodium- Surlyn 8940	75%								
Zinc- Surlyn 9910	25%								
an outer cover layer disposed on said inner cover layer,	<p>"FIG. 1 illustrates a two-piece golf ball 10 which includes a solid core 11 and a <b>cover 12</b> which comprises a relatively hard inner layer 13 of one or more ionomer resins <b>and a relatively soft outer layer 14 of polymeric material.</b>" (Proudfit, col. 7, ll. 21-24)</p>								
said outer cover layer having a thickness of 0.010 to 0.070 inches,	<p>"The thickness of the outer layer can be within the range of about 0.0450 to 0.0650 inch to provide a total ball diameter of 1.680 inch. The preferred dimensions are ... an outer layer thickness of 0.0525 inch...." (Proudfit, col. 7, ll. 40-46)</p>								
and said outer cover layer comprising a polyurethane material,	<p>"... an <b>outer layer</b> of soft material such as balata or a <b>blend of balata and other elastomers.</b>" (Proudfit, col. 5, ll. 15-17)</p>								
wherein said golf ball has an overall diameter of 1.680 inches or more,	<p>"The preferred dimensions are a core diameter of 1.500 inch, and inner layer thickness of 0.037 inch (inner layer diameter of 1.575 inch). and an outer layer thickness of 0.0525 inch (<b>total ball diameter of 1.680 inch</b>)." (Proudfit, col. 7, ll. 43-47)</p>								
said inner cover layer having a Shore D hardness of at least 60,	<p>"The composition of the inner cover layer is described in Table 6."</p> <p style="text-align: center;"><b>TABLE 6</b></p> <table border="1"> <thead> <tr> <th colspan="2">Composition of Inner Layer of Cover (Parts by Weight)</th></tr> <tr> <th>Ionomer Type</th><th>Blend Ratio</th></tr> </thead> <tbody> <tr> <td>Sodium- Surlyn 8940</td><td>75%</td></tr> <tr> <td>Zinc- Surlyn 9910</td><td>25%</td></tr> </tbody> </table> <p>(Proudfit, col. 8, ll. 22-30)</p>	Composition of Inner Layer of Cover (Parts by Weight)		Ionomer Type	Blend Ratio	Sodium- Surlyn 8940	75%	Zinc- Surlyn 9910	25%
Composition of Inner Layer of Cover (Parts by Weight)									
Ionomer Type	Blend Ratio								
Sodium- Surlyn 8940	75%								
Zinc- Surlyn 9910	25%								
and said outer cover layer having a Shore D hardness of less than 64.	<p>"...an <b>outer layer of soft material</b> such as balata or a blend of balata and other elastomers." (Proudfit, col. 5, ll. 15-17) This material inherently has a Shore D hardness of less than 64.</p>								

As expressed in the request on page 27 and identified above within the claim chart, Proudfit teaches a golf ball have a two-piece cover including a hard, ionomeric inner cover layer and a soft balata blend outer cover layer. Proudfit lacks in disclosing the use of polyurethane as the material for the outer cover layer. Instead, as shown in Table 7, reproduced below, Proudfit discloses the outer cover layer being made of a blend of balata.

Application/Control Number:  
95/000,123  
Art Unit: 3993

Page 50

TABLE 7	
Composition of Outer Layer (Parts by Weight)	
Trans Polyisoprene (TP-301)	60.00
Polybutadiene	40.00
Zinc Oxide	5.00
Titanium Dioxide	17.00
Ultramarine Blue color	.30
Zinc DiAcrylate	35.00
Peroxide (Varox 230 XL)	2.50
Total	160.00

However, those skilled in the art understand the disadvantages of balata covered golf balls. As admitted by the patent owner:

[d]espite all the benefits of balata, balata covered golf balls are easily cut and/or damaged if mis-hit. Golf balls produced with balata or balata-containing cover compositions therefore have a relatively short lifespan.

(Sullivan '873, col. 1, ll. 39-42). With this disadvantage of balata covered golf balls, golf ball designers looked for materials that would provide the same "click" and "feel" golfers expected and have increased durability.

As pointed out in the request on page 28, lines 4-15, in an analogous golf ball, Molitor '751 teaches that:

It has now been discovered that a key to manufacturing a two-piece ball having playability properties similar to wound, balata-covered balls is to provide about an inner resilient molded core a cover having a shore C hardness less than 85, preferably 70-80, and most preferably 72-76. The novel cover of the golf ball of the invention is made of a composition comprising a blend of (1) a thermoplastic urethane having a shore A hardness less than 95 and (2) an ionomer having a shore D hardness greater than 55. The ionomer comprises olefinic groups having two to four carbon atoms copolymerized with acrylic or methacrylic acid groups and cross-linked with metal ions, preferably sodium or zinc ions. The primary components of the blended cover are set at a weight ratio so as to result in a cover material after molding having a shore C hardness within the range of 70 to 85, preferably 72 to 76. Preferably, the urethane component of the cover material has a tensile strength greater than 2500 psi and an elongation at break greater than 250%. A preferred cover material comprises about 8 parts of the thermoplastic urethane and between 1 and 4 parts ionomer. Preferably, the cover is no greater than 0.060 inch thick. Thinner covers appear to maximize the short iron playability characteristics of the balls.

(Molitor '751, col. 33-57 (emphasis added)). Thus, Molitor '751 teaches having a outer cover layer with a Shore C hardness less than 85 and preferably between 72 and 76. Moreover,

Application/Control Number:  
95/000,123  
Art Unit: 3993

Page 51

Molitor '751 teaches what golf balls are included in the definition of "two-piece" ball within its instant specification.

The phrase "two-piece ball" as used herein refers primarily to balls consisting of a molded core and a cover, but also includes balls having a separate solid layer beneath the cover as disclosed, for example, in U.S. Pat. No. 4,431,193 to Nesbitt, and other balls having non-wound cores.

Molitor '751, col. 3, ll. 7-12 (emphasis added)). Proudfit, likewise, teaches the two-piece golf balls can fit within this definition.

FIG. 1 illustrates a two-piece golf ball 10 which includes a solid core 11 and a cover 12 which comprises a relatively hard inner layer 13 of one or more ionomer resins and a relatively soft outer layer 14 of polymeric material.

(Proudfit, col. 7, ll. 21-24).

As stated above, Molitor '751 teaches the cover of the golf ball has a Shore C hardness of less than 85, preferably 70-80, most preferably 72-76. As described in Molitor '751's TABLE bridging columns 7 and 8, Sample 8 constitutes one of the preferred embodiments and its cover is taught to have a Shore C hardness of 73. Patent Owner has admitted that a Shore C hardness of 73 is equal to a Shore D hardness of 47, see U.S. Pat. No. 6,905,648, Table 19 (Exhibit L). Thus, a cover having a Shore C hardness of between 72 and 76 will inherently have a Shore D hardness of less than 64.

How one of ordinary skill in the art would discover this inherent mechanical property of Shore D hardness for the polyurethane material used in Molitor '751 is by "translating" a Shore C value to a Shore D value for the polyurethane material. How one of ordinary skill in the art "translates" a Shore C value to a Shore D value is by taking the known Shore hardness values with a given range, in this instance Shore C, for given materials, in this instance a polyurethane golf ball covers materials, and taking corresponding measurements with a different set of Shore



Application/Control Number:  
95/000,123  
Art Unit: 3993

Page 52

gauges, in this instance Shore D (but could also be Shore A). A resulting trendline plot occurs from performing this procedure wherein the range of known Shore C values are the abscissa and the range of measured Shore D values are the ordinate. Then, said plot can be use to read equivalent Shore D value for any given Shore C value within the known range of Shore C. This is how one of ordinary skill in the art can know the equivalent Shore D or even Shore A hardness value for any given Shore C hardness value.

As stated in the request on page 29

Therefore, it would have been obvious to one of ordinary skill in the art at the time of the invention to substitute the soft outer cover layer of Nesbitt and replace it with an outer cover layer made of the soft polyurethane material taught by Molitor '751 to provide a golf ball that includes "playability properties as good or better than balata-covered wound balls but are significantly more durable," and "have better wood playability properties than conventional two-piece balls, and permit experienced golfers to apply spin so as to fade or draw a shot" while having improved puttability. (Molitor '751, col. 2, ll. 61-68)

This rejection of claim 1 based on Proudfit in view of Molitor '751 was proposed by the third party requester in the request for reexamination and is being adopted essentially as proposed in the request.

#### Ground 7: Patent Owner's Argument

The Patent Owner argues that the rejection is improper because: (1) Molitor '751 describes the cover of his golf ball with hardness values in terms of Shore C, hence, one of ordinary skill would not look to combine this teaching with the patent of Proudfit to have a ball with Shore D harness values, because the two hardness values, or scales, have no simple mathematical correlation (Patent Owner's Response at middle of page 29); and, (2) no

Application/Control Number:  
95/000,123  
Art Unit: 3993

Page 53

motivation to combine Proudfit with Molitor '751 because the Molitor '751 ball's construction is different than that of the claimed golf balls (Patent Owner's Response at bottom of page 29 continuing to top of page 30).

#### Ground 7: Third Party Requester's Comments

Third Party Requester counter argues that, for argument (1) hardness values of Shore C and Shore D are convertible as evidenced by many published methods (Third Party Requester's Comments at middle of page 33). For argument (2), the Third Party Requester states that motivation to combine exists because Molitor '751, itself, states that its cover can be used with the three-piece golf balls (Third Party Requester's Comments at top of page 34).

#### Ground 7: Examiner's Response to the Argument and Comments

Examiner agrees with the comments of the Third Party Requester, and the rejection of claim 1 under 35 USC 103(a) as being obvious by Proudfit in view of Molitor '751 is maintained. As to the Patent Owner's first argument, Examiner agrees with the Third Party Requester's comments that a correlation, or conversion, exists between the two hardness scales, Shore C and Shore D, because, *inter alia*, Sullivan '873 give a conversion of the two scales at col. 3, lines 42-43. Hence, one of ordinary skill would not be deterred from use of prior art regardless of the hardness scale used to define its various layers.

As to the second argument, Examiner considers the language of the Molitor '751 that "[t]he phrase "two piece ball" as used herein refers primarily to balls consisting of a molded core and a cover, but also includes balls having a separate solid layer beneath the cover as disclosed,

Application/Control Number:  
95/000,123  
Art Unit: 3993

Page 54

for example, in U.S. Pat. No. 4,431,193 to Nesbitt, and other balls, having non-wound cores” provides motivation to combine the two references. Proudfit, like Nesbitt, disclose golf balls with a core, inner cover, and inner cover. Molitor ‘751 provides motivation, for example, at col. 1, lines 11-15, where it states that the invention is concerned with a “golf ball useful in making balls, particularly two-piece balls, having superior short iron and other playability characteristics.”

Further, the Supreme Court has held that “[w]hen there is a design need or market pressure to solve a problem and there are a finite number of identified, predictable solutions, a person of ordinary skill has good reason to pursue the known options within her or her grasp. If this leads to the anticipated success, it is likely the product not of innovation but of ordinary skill and common sense” (slip opinion *KSR* at middle of page 17). Here, the problem of producing a golf ball with distance, durability, “click,” and feel was known (Patent Owner’s Response at bottom of page 4). Polyurethane was a known solution for providing playability properties (Molitor ‘751 at abstract). The resulting golf ball with a polyurethane outer cover had the expected results (Sullivan ‘873 at abstract). Thus, the golf ball disclosed in claim 1 of Sullivan ‘873 is of ordinary skill and common sense.

#### Re. Claim 2

#### **Proposed third party requester rejection: Ground #8**

The requester submits on pages 29 and 30 of the request that claim 2 is unpatentable under 35 U.S.C. § 102(b) as being anticipated by Nesbitt, U.S. Pat. No. 4,431,193, (Nesbitt).

Application/Control Number:  
95/000,123  
Art Unit: 3993

Page 55

**This rejection is adopted in this office action.**

Claim 2 is rejected under 35 U.S.C. § 102(b) as being anticipated by Nesbitt (with incorporation by reference of Molitor '637).

The below claim chart identifies the new limitations introduced by dependent claim 2.

Claim 2	Nesbitt (Molitor '637 incorporated by reference)
wherein said inner cover layer has a thickness of about 0.050 inches, and	"It is found that the inner layer of hard, high flexural modulus resinous material such as SURLYN resin type 1605, is preferably of a thickness in a range of 0.020 inches and 0.070 inches." (Nesbitt, col. 3, ll. 19-23).
said outer cover layer has a thickness of about 0.055 inches.	"The thickness of the outer layer or cover 16 of soft, low flexural modulus resin such as SURLYN type 1855, may be in the range of 0.020 inches and 0.100 inches." (Nesbitt, col. 3, ll. 22-25).

Thus, because all new limitations of claim 2 are found within Nesbitt and from the above analysis within Ground #2 claim 1 is anticipated by Nesbitt with Molitor '637 incorporated by reference.

This rejection of claim 2 based on Nesbitt with incorporation by reference of Molitor '637 was proposed by the third party requester in the request for reexamination and is being adopted essentially as proposed in the request.

#### Ground 8: Patent Owner's Argument

Patent Owner does not specifically argue this rejection.

#### Ground 8: Third Party Requester's Comments

Third Party Requester's arguments for this claim are the same as given *supra* at "Ground 1: Third Party Requester's Comments."

Application/Control Number:  
95/000,123  
Art Unit: 3993

Page 56

#### Ground 8: Examiner's Response to the Argument and Comments

Upon review, the Examiner agrees with the arguments of the Third Party Requester and adopts this suggested rejection. See "Ground 1: Examiner's Response to the Argument and Comments," *supra*.

#### Proposed third party requester rejection: Ground #9

As an alternative to Ground #8, the requester submits on pages 29 and 30 of the request that claim 2 is unpatentable under 35 U.S.C. § 103(a) as being obvious over Nesbitt, U.S. Pat. No. 4,431,193, in view of Molitor et al., U.S. Pat. No. 4,274,637, (Molitor '637).

Claim 2 is rejected under 35 U.S.C. § 103(a) as being unpatentable over Nesbitt in view of Molitor '637.

The below claim chart identifies the new limitations introduced by dependent claim 2.

Claim 2	Nesbitt
wherein said inner cover layer has a thickness of about 0.050 inches, and	"It is found that the inner layer of hard, high flexural modulus resinous material such as SURLYN resin type 1605, is preferably of a thickness in a range of 0.020 inches and 0.070 inches." (Nesbitt, col. 3, ll. 19-23).
said outer cover layer has a thickness of about 0.055 inches.	"The thickness of the outer layer or cover 16 of soft, low flexural modulus resin such as SURLYN type 1855, may be in the range of 0.020 inches and 0.100 inches." (Nesbitt, col. 3, ll. 22-25).

Thus, because all new limitations of claim 2 are found within Nesbitt and from the above analysis within Ground #2 claim 1 is obvious by Nesbitt in view of Molitor '637, claim 2 is likewise obvious by Nesbitt in view of Molitor '637.

Application/Control Number:  
95/000,123  
Art Unit: 3993

Page 57

This rejection of claim 2 based on Nesbitt in view of Molitor '637 was proposed by the third party requester in the request for reexamination and is being adopted essentially as proposed in the request.

#### Ground 9: Patent Owner's Argument

Patent Owner argues that the minimum thickness for the outer layer of the cover of Molitor '637 is 0.060 inches while this claim requires a thickness of 0.055 for this layer (Patent Owner's Response at middle of page 17).

#### Ground 9: Third Party Requester's Comments

Third Party Requester counter argues that Nesbitt discloses a range of 0.020 to 0.100 inches for the thickness of the outer cover of a golf ball (Nesbitt at col. 3, lines 22-25). The holding in *KRS* would dictate that one of ordinary skill would know to use the material of Molitor '637, polyurethane, with the thickness of Nesbitt (Third Party Requester's Comments at middle of page 21).

#### Ground 9: Examiner's Response to the Argument and Comments

Examiner agrees with the comments of the Third Party Requester, and the rejection of claim 2 under 35 USC 103(a) as being obvious by Nesbitt in view of Molitor '637 is maintained. Since Nesbitt references the Molitor '637 patent, one of ordinary skill would logically look at its complete disclosure which includes the use of polyurethane as an outer cover. Using the thickness values of Nesbitt with polyurethane would be obvious because Nesbitt states that "the

Application/Control Number:  
95/000,123  
Art Unit: 3993

Page 58

thickness of the inner layer . . . and the thickness of outer layer . . . may be varied to secure the advantages herein mentioned" at col. 3, lines 16-19. The advantages Nesbitt wishes to achieve are both distance and feel in one golf ball (Nesbitt at col. 2, lines 1-9).

**Proposed third party requester rejection: Ground #10**

Also as an alternative to Ground #8, the requester submits on pages 29 and 30 of the request that claim 2 is unpatentable under 35 U.S.C. § 103(a) as being obvious over Nesbitt, U.S. Pat. No. 4,431,193, in view of Wu, U.S. Pat. No. 5,334,673, (Wu).

Claim 2 is rejected under 35 U.S.C. § 103(a) as being unpatentable over Nesbitt in view of Wu.

The below claim chart identifies the new limitations introduced by dependent claim 2.

Claim 2	Nesbitt
wherein said inner cover layer has a thickness of about 0.050 inches, and	"It is found that the inner layer of hard, high flexural modulus resinous material such as SURLYN resin type 1605, is preferably of a thickness in a range of 0.020 inches and 0.070 inches." (Nesbitt, col. 3, ll. 19-23).
said outer cover layer has a thickness of about 0.055 inches.	"The thickness of the outer layer or cover 16 of soft, low flexural modulus resin such as SURLYN type 1855, may be in the range of 0.020 inches and 0.100 inches." (Nesbitt, col. 3, ll. 22-25).

Thus, because all new limitations of claim 2 are found within Nesbitt and from the above analysis within Ground #3 claim 1 is obvious by Nesbitt in view of Wu, claim 2 is likewise obvious by Nesbitt in view of Wu.

This rejection of claim 2 based on Nesbitt in view of Wu was proposed by the third party requester in the request for reexamination and is being adopted essentially as proposed in the request.



Application/Control Number:  
95/000,123  
Art Unit: 3993

Page 59

#### Ground 10: Patent Owner's Argument

Patent Owner does not specifically argue this rejection.

#### Ground 10: Third Party Requester's Comments

Third Party Requester does not specifically counter argue this rejection.

#### Ground 10: Examiner's Response to the Argument and Comments

Examiner agrees with the general comments of the Third Party Requester, and the rejection of claim 2 under 35 USC 103(a) as being obvious by Nesbitt in view of Wu is maintained. See "Ground 3: Examiner's Response to the Argument and Comments," *supra*.

#### Proposed third party requester rejection: Ground #11

Also as an alternative to Ground #8, the requester submits on pages 29 and 30 that claim 2 is unpatentable under 35 U.S.C. § 103(a) as being obvious over Nesbitt, U.S. Pat. No. 4,431,193, in view of Molitor et al., U.S. Pat. No. 4,674,751, (Molitor '751).

Claim 2 is rejected under 35 U.S.C. § 103(a) as being unpatentable over Nesbitt in view of Molitor '751.

The below claim chart identifies the new limitations introduced by dependent claim 2.

Claim 2	Nesbitt
wherein said inner cover layer has a thickness of about 0.050 inches, and	"It is found that the inner layer of hard, high flexural modulus resinous material such as SURLYN resin type 1605, is preferably of a thickness in a

Application/Control Number:  
95/000,123  
Art Unit: 3993

Page 60

	range of 0.020 inches and 0.070 inches." (Nesbitt, col. 3, ll. 19-23).
said outer cover layer has a thickness of about 0.055 inches.	"The thickness of the outer layer or cover 16 of soft, low flexural modulus resin such as SURLYN type 1855, may be in the range of 0.020 inches and 0.100 inches." (Nesbitt, col. 3, ll. 22-25).

Thus, because all new limitations of claim 2 are found within Nesbitt and from the above analysis within Ground #4 claim 1 is obvious by Nesbitt in view of Molitor '751, claim 2 is likewise obvious by Nesbitt in view of Molitor '751.

This rejection of claim 2 based on Nesbitt in view of Molitor '751 was proposed by the third party requester in the request for reexamination and is being adopted essentially as proposed in the request.

#### Ground 11: Patent Owner's Argument

Patent Owner does not specifically argue this rejection.

#### Ground 11: Third Party Requester's Comments

Third Party Requester does not specifically counter argue this rejection.

#### Ground 11: Examiner's Response to the Argument and Comments

Examiner agrees with the general comments of the Third Party Requester, and the rejection of claim 2 under 35 USC 103(a) as being obvious by Nesbitt in view of Molitor '751 is maintained. See "Ground 4: Examiner's Response to the Argument and Comments," *supra*.

Application/Control Number:  
95/000,123  
Art Unit: 3993

Page 61

**Proposed third party requester rejection: Ground #12**

The requester submits on pages 30 and 31 of the request that claim 2 is unpatentable under 35 U.S.C. § 103(a) as being obvious over Proudfit, U.S. Pat. No. 5,314,187, (Proudfit) in view of Molitor et al., U.S. Pat. No. 4,274,637.

**This rejection is not adopted.**

Proudfit's preferred embodiment's inner layer is 0.037 inches thick, see col. 7:43-44. Claim 2 requires the inner layer to be about 0.050 inches thick. Those skilled in the art measure thickness to the thousandths of an inch. The difference between the Proudfit preferred embodiment and the claimed invention is 0.013 inches or thirteen hundredths of an inch. This difference equates to a difference of a factor of ten. Further, the requester admits that it is not the chemical but the mechanical properties of the materials used in making golf balls important to those skilled in the art. One of the mechanical properties in constructing a golf ball with materials is the thickness to make a given layer. Therefore, for these reasons this proposed rejection is not adopted.

**Ground 12: Patent Owner's Argument**

Patent Owner does not specifically argue this rejection.

**Ground 12: Third Party Requester's Comments**

Third Party Requester does not specifically counter argue this rejection.

**Ground 12: Examiner's Response to the Argument and Comments**

Application/Control Number:  
95/000,123  
Art Unit: 3993

Page 62

For the reasons stated in the above explanation, the non-adoption of this rejection is maintained.

**Proposed third party requester rejection: Ground #13**

The requester submits on pages 30 and 31 of the request that claim 2 is unpatentable under 35 U.S.C. § 103(a) as being obvious over Proudfit, U.S. Pat. No. 5,314,187, (Proudfit) in view of Wu, U.S. Pat. No. 5,334,673, (Wu).

**This rejection is not adopted.**

Proudfit's preferred embodiment's inner layer is 0.037 inches thick, see col. 7:43-44. Claim 2 requires the inner layer to be about 0.050 inches thick. Those skilled in the art measure thickness to the thousandths of an inch. The difference between the Proudfit preferred embodiment and the claimed invention is 0.013 inches or thirteen hundredths of an inch. This difference equates to a difference of a factor of ten. Further, the requester admits that it is not the chemical but the mechanical properties of the materials used in making golf balls important to those skilled in the art. One of the mechanical properties in constructing a golf ball with materials is the thickness to make a given layer. Therefore, for these reasons this proposed rejection is not adopted.

**Ground 13: Patent Owner's Argument**

Patent Owner does not specifically argue this rejection.

**Ground 13: Third Party Requester's Comments**

Application/Control Number:  
95/000,123  
Art Unit: 3993

Page 63

Third Party Requester does not specifically counter argue this rejection.

#### Ground 13: Examiner's Response to the Argument and Comments

For the reasons stated in the above explanation, the non-adoption of this rejection is maintained.

#### **Proposed third party requester rejection: Ground #14**

The requester submits on pages 30 and 31 that claim 2 is unpatentable under 35 U.S.C. § 103(a) as being obvious over Proudfit, U.S. Pat. No. 5,314,187, (Proudfit) in view of Molitor et al., U.S. Pat. No. 4,674,751, (Molitor '751).

**This rejection is not adopted.**

Proudfit's preferred embodiment's inner layer is 0.037 inches thick, see col. 7:43-44. Claim 2 requires the inner layer to be about 0.050 inches thick. Those skilled in the art measure thickness to the thousandths of an inch. The difference between the Proudfit preferred embodiment and the claimed invention is 0.013 inches or thirteen hundredths of an inch. This difference equates to a difference of a factor of ten. Further, the requester admits that it is not the chemical but the mechanical properties of the materials used in making golf balls important to those skilled in the art. One of the mechanical properties in constructing a golf ball with materials is the thickness to make a given layer. Therefore, for these reasons this proposed rejection is not adopted.

#### Ground 14: Patent Owner's Argument

Application/Control Number:  
95/000,123  
Art Unit: 3993

Page 64

Patent Owner does not specifically argue this rejection.

#### Ground 14: Third Party Requester's Comments

Third Party Requester does not specifically counter argue this rejection.

#### Ground 14: Examiner's Response to the Argument and Comments

For the reasons stated in the above explanation, the non-adoption of this rejection is maintained.

#### Re. Claim 3

#### **Proposed third party requester rejection: Ground #15**

The requester submits that claim 3 is unpatentable under 35 U.S.C. § 102(b) as being anticipated by Nesbitt, U.S. Pat. No. 4,431,193 (Nesbitt).

In the request on pages 32 through 36 the third party requester proposes that claim 3 be rejected based upon Nesbitt alone with the incorporation by reference of Molitor '637. The third party requester points out that Molitor '637 is incorporated by reference into Nesbitt because Nesbitt refers to Molitor '637. (See Nesbitt col. 3, ll. 54-60).

**This rejection is adopted in this office action.**

Claim 3 is rejected under 35 U.S.C. § 102(a) as being anticipated by Nesbitt.

Below is a claim chart identifying the claim limitations and which reference Nesbitt or Molitor '637 discloses, teaches or suggests the claim limitations.

Application/Control Number:  
95/000,123  
Art Unit: 3993

Page 65

Claim 3	Nesbitt (primary) with Molitor '637 (incorporated by reference)
A multi-layer golf ball comprising:	"The disclose embraces a golf ball and method of making same...." (Nesbitt, Abstract; FIGS 1 & 2)
a spherical core;	"Referring to the drawings in detail there is illustrated a golf ball 10 which comprises a solid center or core formed as a solid body of resilient polymeric material or rubber-like material in the shape of a sphere." (Nesbitt, col. 2, ll. 31-34).
an inner cover layer having Shore D hardness of at least 60 disposed on said spherical core,	"Disposed on the spherical center or core 12 is a first layer, lamination, ply or inner cover 14 of molded hard, highly flexural modulus resinous material...." (Nesbitt, col. 2, ll. 34-37). "[I]nner cover 14 of molded hard, highly flexural modulus resinous material such as type 1605 SURLYN marketed by E.I. DuPont de Nemours." (Nesbitt, col. 2, ll. 36-38). "[A] center or core 12 ... is molded with a layer of hard, high modulus SURLYN resin, such as SURLYN type 1605..." (Nesbitt, col. 3, ll. 27-29).
said inner cover layer comprising an ionomeric resin including no more than 16% by weight of an alpha, beta-unsaturated carboxylic acid and	"Reference is made to the application Ser. No. 155,658, of Robert P. Molitor issued into U.S. Pat. No. 4,274,637 which describes a number of foamable compositions of a character which may be employed for one or both layers 14 [inner] and 16 [outer] for the golf ball of this invention." (Nesbitt, col. 3, ll. 56-61). <b>Molitor '637:</b> Molitor teaches, in examples 1-7, cover materials including a blend of two ionomer resins: SURLYN 1605 and SURLYN 1557. (Molitor '637, col. 14, l. 22 to col. 16, l. 34).
having a modulus of from about 15,000 to about 70,000 psi; and	see below
an outer cover layer having a Shore D hardness of about 64 or less disposed about said inner cover layer and defining a plurality of dimples to form a multi-layer golf ball,	<b>Nesbitt:</b> "Reference is made to the application Ser. No. 155,658 of Robert P. Molitor issued into U.S. Pat. No. 4,274,637 which describes a number of foamable compositions of a character which may be employed for ... layers ... 16 for the golf ball of this invention." (Nesbitt, col. 3, ll. 54-60). <b>Molitor '637:</b> Teaches the use of ESTANE 58133 in Examples 16 and 17. (Molitor '637, col. 18, ll. 32-60) See below why this cover material has inherently a Shore D hardness of 55. "[T]he outer layer or cover 16 being of dimpled configuration ...." (Nesbitt, col. 2, lines 48-49; Fig. 2.)
said outer cover layer comprising a polyurethane based material and	<b>Molitor '637:</b> See TABLE 10 which teaches ESTANE 58133 is a thermoplastic polyurethane, thus is a polyurethane based material. Moreover, Molitor '637 teaches the cover materials include "polyurethanes such as are prepared from polyols and organic polyisocyanates". (Molitor '637, col. 5, ll. 39-41; col. 18, ll. 32-60 (Examples 16 and 18)).
said outer cover layer having a thickness of from about 0.010 to about 0.070 inches.	"The thickness of the outer layer or cover 16 of soft, low flexural modulus resin such as SURLYN type 1855, may be in the range of 0.020 inches and 0.100 inches." (Nesbitt, col. 3, ll. 22-25).



Application/Control Number:  
95/000,123  
Art Unit: 3993

Page 66

As mentioned above, Nesbitt incorporates by reference Molitor '637 as describing an number of compositions suitable for the inner cover layer 14. Of particular interest in this case are Examples 1-7 within Molitor '637. Examples 1-7 use a ratio of SURLYN 1605 and SURLYN 1557. The use of SURLYN grades for golf ball covers is also disclosed in U.S. Pat. No. 4,690,981. The preferred composition in the '981 Patent has "from about 5[%] to about 15% by weight of unsaturated carboxylic acid." '981 Pat., col. 3, ll. 59-60. Those of ordinary skill in the art understand that SURLYN 1605 has been "redesignated" as SURLYN 8940 and SURLYN 1557 has been "redesignated" as SURLYN 9650, see e.g. U.S. Pat. No. 4,679,795, col. 6, ll. 10-15 and U.S. Pat. No. 5,150,906, col. 4, ll. 66. Furthermore, the Patent Owner in the Sullivan '873 Patent admitted that SURLYN 1605 is now designated as 8940 and was used in Nesbitt's first (inner) layer and is a sodium ion based low acid "(less than or equal to 15 weight percent methacrylic acid) ionomer resin having a flexural modulus of about 51,000 psi." See '873 Patent, col. 2, ll. 43-50. Moreover, as shown in the "Properties Grid for Selected Industrial Grades of SURLYN" SURLYN 9650's ordinate compared to the other grades of SURLYN is toward the "Low % Acid" side of the graph. Thus, based on this evidence, Nesbitt incorporating by reference Molitor '637 inherently teaches using as an inner layer at least one ionomer resin having no more than 16% by weight of alpha, beta-unsaturated carboxylic acid. Moreover, as stated above, it has been identified that one resin in Nesbitt has a flexural modulus of 51,000 psi. This teaching of flexural modulus falls within the range claimed (15,000 psi to 70,000 psi). This rejection of claim 3 based on Nesbitt incorporating by reference Molitor '637 was proposed by the third party requester in the request for reexamination and is being adopted essentially as proposed in the request.

Application/Control Number:  
95/000,123  
Art Unit: 3993

Page 67

#### Ground 15: Patent Owner's Argument

Patent Owner does not argue this rejection.

#### Ground 15: Third Party Requester's Comments

Third Party Requester's arguments for this claim are the same as given *supra* at "Ground 1: Third Party Requester's Comments."

#### Ground 15: Examiner's Response to the Argument and Comments

Upon review, the Examiner agrees with the arguments of the Third Party Requester and adopts this suggested rejection. See "Ground 1: Examiner's Response to the Argument and Comments," *supra*.

#### **Proposed third party requester rejection: Ground #16**

The requester submits on pages 32 through 36 that claim 3 is unpatentable under 35 U.S.C. § 103(a) as being obvious over Nesbitt, U.S. Pat. No. 4,431,193, in view of Molitor et al., U.S. Pat. No. 4,274,637, (Molitor '637).

Claim 3 is rejected under 35 U.S.C. § 103(a) as being unpatentable over Nesbitt in view of Molitor '637.

Below is a claim chart identifying the claim limitations and which reference Nesbitt or Molitor '637 discloses, teaches or suggests the claim limitations.

Application/Control Number:  
95/000,123  
Art Unit: 3993

Page 68

Claim 3	Nesbitt (primary) with Molitor '637 (teaching)
A multi-layer golf ball comprising:	"The disclose embraces a golf ball and method of making same...." (Nesbitt, Abstract; FIGS 1 & 2)
a spherical core;	"Referring to the drawings in detail there is illustrated a golf ball 10 which comprises a solid center or core formed as a solid body of resilient polymeric material or rubber-like material in the shape of a sphere." (Nesbitt, col. 2, ll. 31-34).
an inner cover layer having Shore D hardness of at least 60 disposed on said spherical core,	"Disposed on the spherical center or core 12 is a first layer, lamination, ply or inner cover 14 of molded hard, highly flexural modulus resinous material...." (Nesbitt, col. 2, ll. 34-37). "[I]nner cover 14 of molded hard, highly flexural modulus resinous material such as type 1605 SURLYN marketed by E.I. DuPont de Nemours." (Nesbitt, col. 2, ll. 36-38). "[A] center or core 12 ... is molded with a layer of hard, high modulus SURLYN resin, such as SURLYN type 1605..." (Nesbitt, col. 3, ll. 27-29).
said inner cover layer comprising an ionomeric resin including no more than 16% by weight of an alpha, beta-unsaturated carboxylic acid and	"Reference is made to the application Ser. No. 155,658, of Robert P. Molitor issued into U.S. Pat. No. 4,274,637 which describes a number of foamable compositions of a character which may be employed for one or both layers 14 [inner] and 16 [outer] for the golf ball of this invention." (Nesbitt, col. 3, ll. 56-61). <b>Molitor '637:</b> Molitor teaches, in examples 1-7, cover materials including a blend of two ionomer resins: SURLYN 1605 and SURLYN 1557. (Molitor '637, col. 14, l. 22 to col. 16, l. 34).
having a modulus of from about 15,000 to about 70,000 psi; and	see below
an outer cover layer having a Shore D hardness of about 64 or less disposed about said inner cover layer and defining a plurality of dimples to form a multi-layer golf ball,	<b>Nesbitt:</b> "Reference is made to the application Ser. No. 155,658 of Robert P. Molitor issued into U.S. Pat. No. 4,274,637 which describes a number of foamable compositions of a character which may be employed for ... layers ... 16 for the golf ball of this invention." (Nesbitt, col. 3, ll. 54-60). <b>Molitor '637:</b> Teaches the use of ESTANE 58133 in Examples 16 and 17. (Molitor '637, col. 18, ll. 32-60) See below why this cover material has inherently a Shore D hardness of 55. "[T]he outer layer or cover 16 being of dimpled configuration ...." (Nesbitt, col. 2, lines 48-49; Fig. 2.)
said outer cover layer comprising a polyurethane based material and	<b>Molitor '637:</b> See TABLE 10 which teaches ESTANE 58133 is a thermoplastic polyurethane, thus is a polyurethane based material. Moreover, Molitor '637 teaches the cover materials include "polyurethanes such as are prepared from polyols and organic polyisocyanates". (Molitor '637, col. 5, ll. 39-41; col. 18, ll. 32-60 (Examples 16 and 18)).
said outer cover layer having a thickness of from about 0.010 to about 0.070 inches.	"The thickness of the outer layer or cover 16 of soft, low flexural modulus resin such as SURLYN type 1855, may be in the range of 0.020 inches and 0.100 inches." (Nesbitt, col. 3, ll. 22-25).

Application/Control Number:  
95/000,123  
Art Unit: 3993

Page 69

As mentioned above, Nesbitt references Molitor '637 as describing an number of compositions suitable for the inner cover layer 14. Of particular interest in this case are Examples 1-7 within Molitor '637. Examples 1-7 use a ratio of SURLYN 1605 and SURLYN 1557. The use of SURLYN grades for golf ball covers is also disclosed in U.S. Pat. No. 4,690,981. The preferred composition in the '981 Patent has "from about 5[%] to about 15% by weight of unsaturated carboxylic acid." '981 Pat., col. 3, ll. 59-60. Those of ordinary skill in the art understand that SURLYN 1605 has been "redesignated" as SURLYN 8940 and SURLYN 1557 has been "redesignated" as SURLYN 9650, see e.g. U.S. Pat. No. 4,679,795, col. 6, ll. 10-15 and U.S. Pat. No. 5,150,906, col. 4, ll. 66. Furthermore, the Patent Owner in the Sullivan '873 Patent admitted that SURLYN 1605 is now designated as 8940 and was used in Nesbitt's first (inner) layer and is a sodium ion based low acid "(less than or equal to 15 weight percent methacrylic acid) ionomer resin having a flexural modulus of about 51,000 psi." See '873 Patent, col. 2, ll. 43-50. Moreover, as shown in the "Properties Grid for Selected Industrial Grades of SURLYN" SURLYN 9650's ordinate compared to the other grades of SURLYN is toward the "Low % Acid" side of the graph. Thus, based on this evidence, Nesbitt referencing Molitor '637 inherently teaches using as an inner layer at least one ionomer resin having no more than 16% by weight of alpha, beta-unsaturated carboxylic acid. Moreover, as stated above, it has been identified that one resin in Nesbitt has a flexural modulus of 51,000 psi. This teaching of flexural modulus falls within the range claimed (15,000 psi to 70,000 psi).

This rejection of claim 3 based on Nesbitt in view of Molitor '637 was proposed by the third party requester in the request for reexamination and is being adopted essentially as proposed in the request.

Application/Control Number:  
95/000,123  
Art Unit: 3993

Page 70

#### Ground 16: Patent Owner's Argument

Patent Owner does not specifically argue this rejection. The arguments are the same as those at "Ground 2: Patent Owner's Argument," *supra*.

#### Ground 16: Third Party Requester's Comments

Third Party Requester does not specifically counter argue this rejection. The counter arguments are the same as those at "Ground 2: Third Party Requester's Comments," *supra*.

#### Ground 16: Examiner's Response to the Argument and Comments

Examiner agrees with the general comments of the Third Party Requester, and the rejection of claim 3 under 35 USC 103(a) as being obvious by Nesbitt in view of Molitor '637 is maintained. See "Ground 2: Examiner's Response to the Argument and Comments," *supra*.

#### **Proposed third party requester rejection: Ground #17**

The requester submits on pages 36 through 38 that claim 3 under 35 U.S.C. § 103(a) as being obvious over Nesbitt, U.S. Pat. No. 4,431,193, in view of Wu, U.S. Patent No. 5,334,673, (Wu).

Claim 3 is rejected under 35 U.S.C. 103(a) as being unpatentable over Nesbitt mentioning Molitor '637 in view of Wu, as evidenced by Exhibit C.

Application/Control Number:  
95/000,123  
Art Unit: 3993

Page 71

Below is a claim chart identifying the claim limitations and which reference Nesbitt or Wu discloses, teaches or suggests the claim limitations. As reported in the Order granting reexamination, it needs to be correctly stated on the record that Nesbitt and Molitor '637 which is mentioned in Nesbitt teach the use of particular polyurethane materials for the use as an outer layer.

Claim 3	Nesbitt (primary) mentioning Molitor '637 with Wu (teaching)
A multi-layer golf ball comprising:	"The disclose embraces a golf ball and method of making same...." (Nesbitt, Abstract; FIGS 1 & 2)
a spherical core;	"Referring to the drawings in detail there is illustrated a golf ball 10 which comprises a solid center or core formed as a solid body of resilient polymeric material or rubber-like material in the shape of a sphere." (Nesbitt, col. 2, ll. 31-34).
an inner cover layer having Shore D hardness of at least 60 disposed on said spherical core,	"Disposed on the spherical center or core 12 is a first layer, lamination, ply or inner cover 14 of molded hard, highly flexural modulus resinous material...." (Nesbitt, col. 2, ll. 34-37). "[I]nner cover 14 of molded hard, highly flexural modulus resinous material such as type 1605 SURLYN marketed by E.I. DuPont de Nemours." (Nesbitt, col. 2, ll. 36-38). "[A] center or core 12 ... is molded with a layer of hard, high modulus SURLYN resin, such as SURLYN type 1605..." (Nesbitt, col. 3, ll. 27-29).
said inner cover layer comprising an ionomeric resin including no more than 16% by weight of an alpha, beta-unsaturated carboxylic acid and	"Reference is made to the application Ser. No. 155,658, of Robert P. Molitor issued into U.S. Pat. No. 4,274,637 which describes a number of foamable compositions of a character which may be employed for one or both layers 14 [inner] and 16 [outer] for the golf ball of this invention." (Nesbitt, col. 3, ll. 56-61). <b>Molitor '637:</b> Molitor teaches, in examples 1-7, cover materials including a blend of two ionomer resins: SURLYN 1605 and SURLYN 1557. (Molitor '637, col. 14, l. 22 to col. 16, l. 34).
having a modulus of from about 15,000 to about 70,000 psi; and	see below.
an outer cover layer having a Shore D hardness of about 64 or less disposed about said inner cover layer and defining a plurality of dimples to form a multi-layer golf ball,	<b>Nesbitt:</b> "Reference is made to the application Ser. No. 155,658 of Robert P. Molitor issued into U.S. Pat. No. 4,274,637 which describes a number of foamable compositions of a character which may be employed for ... layers ... 16 for the golf ball of this invention." (Nesbitt, col. 3, ll. 54-60). "[C]enter or core 12 and inner layer 14 of hard resinous material in the form of a sphere is then remolded into a dimpled golf ball of a diameter of 1.680 inches minimum with an outer or cover layer 16 of a soft, low flexural modulus resin such as SURLYN 1855." (Nesbitt, col. 3, ll. 33-38 and Nesbitt, figure 1). <b>Molitor '637:</b> Teaches the use of ESTANE 58133 in Examples 16 and 17. (Molitor '637, col. 18, ll. 32-60) See below why this cover

Application/Control Number:  
95/000,123  
Art Unit: 3993

Page 72

	material has inherently a Shore D hardness of 55. <b>Wu:</b> "With polyurethanes made in accordance with the present invention, the degree of cure which has taken place is dependent upon, inter alia, the time, temperature, type of curative, and amount of catalyst used. It has been found that the degree of cure of the cover composition is directly proportional to the hardness of the composition. A hardness about 10D to 30D, Shore D hardness for the cover stock at the end of the intermediate curing step (i.e. just prior to the final molding step) has been found to be suitable for the present invention. More preferred is a hardness of about 12D to 20D." (Wu, col. 6, ll. 27-38).
said outer cover layer comprising a polyurethane based material and	<b>Molitor '637:</b> See TABLE 10 which teaches ESTANE 58133 is a thermoplastic polyurethane, thus is a polyurethane based material. Moreover, Molitor '637 teaches the cover materials include "polyurethanes such as are prepared from polyols and organic polyisocyanates". (Molitor '637, col. 5, ll. 39-41; col. 18, ll. 32-60 (Examples 16 and 18)).
said outer cover layer having a thickness of from about 0.010 to about 0.070 inches.	"The thickness of the outer layer or cover 16 of soft, low flexural modulus resin such as SURLYN type 1855, may be in the range of 0.020 inches and 0.100 inches." (Nesbitt, col. 3, ll. 22-25).

As mentioned above, Nesbitt references Molitor '637 as describing an number of compositions suitable for the inner cover layer 14. Of particular interest in this case are Examples 1-7 within Molitor '637. Examples 1-7 use a ratio of SURLYN 1605 and SURLYN 1557. The use of SURLYN grades for golf ball covers is also disclosed in U.S. Pat. No. 4,690,981. The preferred composition in the '981 Patent has "from about 5[%] to about 15% by weight of unsaturated carboxylic acid." '981 Pat., col. 3, ll. 59-60. Those of ordinary skill in the art understand that SURLYN 1605 has been "redesignated" as SURLYN 8940 and SURLYN 1557 has been "redesignated" as SURLYN 9650, see e.g. U.S. Pat. No. 4,679,795, col. 6, ll. 10-15 and U.S. Pat. No. 5,150,906, col. 4, ll. 66. Furthermore, the Patent Owner in the Sullivan '873 Patent admitted that SURLYN 1605 is now designated as 8940 and was used in Nesbitt's first (inner) layer and is a sodium ion based low acid "(less than or equal to 15 weight percent methacrylic acid) ionomer resin having a flexural modulus of about 51,000 psi." See '873 Patent, col. 2, ll. 43-50. Moreover, as shown in the "Properties Grid for Selected Industrial



Application/Control Number:  
95/000,123  
Art Unit: 3993

Page 73

Grades of SURLYN” SURLYN 9650’s ordinate compared to the other grades of SURLYN is toward the “Low % Acid” side of the graph. Thus, based on this evidence, Nesbitt referencing Molitor ‘637 inherently teaches using as an inner layer at least one ionomer resin having no more than 16% by weight of alpha, beta-unsaturated carboxylic acid. Moreover, as stated above, it has been identified that one resin in Nesbitt has a flexural modulus of 51,000 psi. This teaching of flexural modulus falls within the range claimed (15,000 psi to 70,000 psi).

As mentioned above, Nesbitt mentioning Molitor ‘637 teaches the use of particular polyurethane materials for the use as an outer layer. Wu teaches that polyurethane was being used as the outer layer of golf ball *circa* 1993. Wu further teaches in col. 1:36-46 that SURLYN covered golf balls lack the “click” and “feel” of balata which golfers have become accustomed to such sensations and polyurethane covered golf balls can be made to have a similar “click” and “feel” of balata. Wu also at least teaches that polyurethanes made according to its invention will have Shore D hardness directly proportional to the degree of cure of the cover; and this Shore D hardness ranges from 10 to 30, preferably 12 to 20 on the Shore D scale, see col. 6:26-38. This teaching of Shore D hardness is directed to an intermediate curing step product prior to the final molding process to finish the golf ball. Exhibit C demonstrates the actual finished golf ball product having the cover layer that Wu teaches within its disclosure. Exhibit C teaches that the golf ball taught therein is covered by the following patents: 4,783,078; 4,846,910; 4,858,923; 4,904,320; 4,915,390; 5,007,594; 5,080,367; 5,133,509; **5,334,673**; and D339,074. The ‘673 Patent teaches the cover sock of the Exhibit C finished golf ball. Exhibit C teaches that the golf ball taught therein has a cover material made from an “elastomer”, having a thickness of .050”, and 58 Shore D hardness. All three properties are within the range of mechanical properties of

Application/Control Number:  
95/000,123  
Art Unit: 3993

Page 74

the claim invention (polyurethane is an elastomer, cover layer thickness ranges from 0.010 to 0.070 inches and the Shore D hardness is less than 64). Because it has been admitted by the inventor of the Sullivan '893 patent that the particular chemical properties of the materials (the chemical composition) used in the construction of a golf ball lack criticality as compared to the mechanical properties (the Shore D hardness, flexural modulus, layer thickness) of those compounds used for constructing the different layers (Exhibit G at 334), one of ordinary skill in the art at the time the invention was made would find it obvious to incorporate the teachings of Wu which inherently include the teachings of Shore hardness for the fully cured cover layer as taught in Exhibit C as obvious equivalent materials in order to achieve the same end result of providing a cover layer that has the same "click" and "feel" of a balata cover which the extra durability of an elastomeric material.

This rejection of claim 3 based on Nesbitt mentioning Molitor '637 in view of Wu as evidenced by Exhibit C was proposed by the third party requester in the request for reexamination and is being adopted essentially as proposed in the request.

#### Ground 17: Patent Owner's Argument

Patent Owner does not specifically argue this rejection. The arguments are the same as those at "Ground 3: Patent Owner's Argument," *supra*.

#### Ground 17: Third Party Requester's Comments

Third Party Requester does not specifically counter argue this rejection. The counter arguments are the same as those at "Ground 3: Third Party Requester's Comments," *supra*.

Application/Control Number:  
95/000,123  
Art Unit: 3993

Page 75

#### Ground 17: Examiner's Response to the Argument and Comments

Examiner agrees with the general comments of the Third Party Requester, and the rejection of claim 3 under 35 USC 103(a) as being obvious by Nesbitt in view of Wu is maintained. See "Ground 3: Examiner's Response to the Argument and Comments," *supra*.

#### Proposed third party requester rejection: Ground #18

The requester submits on pages 38 through 40 that claim 3 under 35 U.S.C. § 103(a) as being obvious over Nesbitt, U.S. Pat. No. 4,431,193, in view of Molitor et al., U.S. Pat. No. 4,674,751, (Molitor '751).

Claim 3 is rejected under 35 U.S.C. 103(a) as being unpatentable over Nesbitt mentioning Molitor '637 in view of Molitor '751.

Below is a claim chart identifying the claim limitations and where Nesbitt discloses, teaches or suggests the claim limitations. As reported in the Order granting reexamination, it needs to be correctly stated on the record that Nesbitt and Molitor '637 which is mentioned in Nesbitt teach the use of particular polyurethane materials for the use as an outer layer .

Claim 3	Nesbitt (primary) mentioning Molitor '637 with Molitor '751 (teaching)
A golf ball comprising:	"The disclosure embraces <b>a golf ball</b> and method of making the same..." (Nesbitt, Abstract, and FIGS. 1 & 2)
a spherical core;	"Referring to the drawings in detail there is illustrated a golf ball 10 which comprises <b>a solid center or core</b> formed as a solid body of resilient polymeric material or rubber-like material in the shape of a <b>sphere</b> . (Nesbitt, col. 2, ll. 31-34).
an inner cover layer having Shore D	"Disposed on the spherical center or core 12 is a first layer,

Application/Control Number:  
95/000,123  
Art Unit: 3993

Page 76

hardness of at least 60 disposed on said spherical core,	<p>lamination, ply or inner cover 14 of molded hard, highly flexural modulus resinous material....” (Nesbitt, col. 2, ll. 34-37).</p> <p>“[I]nner cover 14 of molded hard, highly flexural modulus resinous material such as type 1605 SURLYN marketed by E.I. DuPont de Nemours.” (Nesbitt, col. 2, ll. 36-38).</p> <p>“[A] center or core 12 ... is molded with a layer of hard, high modulus SURLYN resin, such as SURLYN type 1605...” (Nesbitt, col. 3, ll. 27-29).</p> <p>also see below</p>
said inner cover layer comprising an ionomeric resin including no more than 16% by weight of alpha, beta-unsaturated carboxylic acid; and	<p>“Reference is made to the application Ser. No. 155,658 of Robert P. Molitor issued into U.S. Pat. No. 4,274,637 which describes a number of foamable compositions of a character which may be employed for ... layers 14 ... for the golf ball of this invention.” (Nesbitt, col. 3, ll. 54-60).</p> <p><b>Molitor ‘637</b>: Molitor teaches, in examples 1-7, cover materials including a blend of two ionomer resins: SURLYN 1605 and SURLYN 1557. (Molitor ‘637, col. 14, l. 22 to col. 16, l. 34).</p>
having a modulus of from about 15,000 to about 70,000 psi; and	see below
an outer cover layer having a Shore D hardness of about 64 or less disposed on said inner cover layer and defining a plurality of dimples to form a multi-layer golf ball,	<p>“An outer layer, ply, lamination or cover 16 ... is then remolded onto the inner ply or layer 14 ...” (Nesbitt, col. 2, ll. 43-47).</p> <p>“[C]enter or core 12 and inner layer 14 of hard resinous material in the form of a sphere is then remolded into a dimpled golf ball of a diameter of 1.680 inches minimum with an outer or cover layer 16 of a soft, low flexural modulus resin such as SURLYN 1855.” (Nesbitt, col. 3, ll. 33-38 and Nesbitt, figure 1).</p> <p>“Reference is made to the application Ser. No. 155,658 of Robert P. Molitor issued into U.S. Pat. No. 4,274,637 which describes a number of foamable compositions of a character which may be employed for ... layers ... 16 for the golf ball of this invention.” (Nesbitt, col. 3, ll. 54-60).</p> <p>See figure 1 of Nesbitt for the disclosure of a plurality of dimples on the outer layer.</p>
said outer cover layer comprising a polyurethane material and	<b>Molitor ‘637</b> : ESTANE 58133 is a polyurethane material. (Molitor, col. 18)
said outer cover layer having a thickness of 0.010 to 0.070 inches,	“The thickness of the outer layer or cover 16 of soft, low flexural modulus resin such as SURLYN type 1855, may be in the range of 0.020 inches and 0.100 inches.” (Nesbitt, col. 3, ll. 22-25).

Application/Control Number:  
95/000,123  
Art Unit: 3993

Page 77

As shown above in the claim chart, Nesbitt mentioning Molitor '637 suggests the use of a soft outer cover layer including a polyurethane material. In an analogous golf ball, Molitor '751 teaches that:

It has now been discovered that a key to manufacturing a two-piece ball having playability properties similar to wound, balata-covered balls is to provide about an inner resilient molded core **a cover having a shore C hardness less than 85, preferably 70-80, and most preferably 72-76.** The novel cover of the golf ball of the invention is made of a composition comprising a blend of **(1) a thermoplastic urethane having a shore A hardness less than 95 and (2) an ionomer having a shore D hardness greater than 55.**

(Molitor '751, col. 2, ll.33-49 (emphasis added)).

Moreover, in explaining what constitutes a two-piece golf ball, Molitor '751 teaches that:

The phrase "two piece ball" as used herein refers primarily to balls consisting of a molded core and a cover, **but also includes balls having a separate solid layer beneath the cover as disclosed, for example, in U.S. Pat. No. 4,431,193 to Nesbitt, and other balls have non-wound cores.**

(Molitor '751, col. 3, ll. 7-12 (emphasis added)).

As stated above, Molitor '751 teaches the cover of the golf ball has a Shore C hardness of less than 85, preferably 70-80, most preferably 72-76. As described in Molitor '751's TABLE bridging columns 7 and 8, Sample 8 constitutes one of the preferred embodiments and its cover is taught to have a Shore C hardness of 73. Patent Owner has admitted that a Shore C hardness of 73 is equal to a Shore D hardness of 47, see U.S. Pat. No. 6,905,648, Table 19 (Exhibit L). Thus, a cover having a Shore C hardness of between 72 and 76 will inherently have a Shore D hardness of less than 64.

How one of ordinary skill in the art would discover this inherent mechanical property of Shore D hardness for the polyurethane material used in Molitor '751 is by "translating" a Shore C value to a Shore D value for the polyurethane material. How one of ordinary skill in the art "translates" a Shore C value to a Shore D value is by taking the known Shore hardness values

Application/Control Number:  
95/000,123  
Art Unit: 3993

Page 78

with a given range, in this instance Shore C, for given materials, in this instance polyurethane golf ball covers materials, and taking corresponding measurements with a different set of Shore gauges, in this instance Shore D (but could also be Shore A). A resulting trendline plot occurs from performing this procedure wherein the range of known Shore C values are the abscissa and the range of measured Shore D values are the ordinate. Then, said plot can be use to read equivalent Shore D value for any given Shore C value within the known range of Shore C. This is how one of ordinary skill in the art can know the equivalent Shore D or even Shore A hardness value for any given Shore C hardness value.

As stated in the request on page 39

It would have been obvious to one of ordinary skill in the art at the time of the invention to substitute the soft outer cover layer of Nesbitt and replace it with an outer cover layer made of the soft polyurethane material taught by Molitor '751 to provide a golf ball that includes "playability properties as good or better than balata-covered wound balls but are significantly more durable," and "have better wood playability properties than conventional two-piece balls, and permit experienced golfers to apply spin so as to fade or draw a shot" while having improved puttability. (Molitor '751, col. 2, ll. 61-68)

As mentioned above, Nesbitt references Molitor '637 as describing an number of compositions suitable for the inner cover layer 14. Of particular interest in this case are Examples 1-7 within Molitor '637. Examples 1-7 use a ratio of SURLYN 1605 and SURLYN 1557. The use of SURLYN grades for golf ball covers is also disclosed in U.S. Pat. No. 4,690,981. The preferred composition in the '981 Patent has "from about 5[%] to about 15% by weight of unsaturated carboxylic acid." '981 Pat., col. 3, ll. 59-60. Those of ordinary skill in the art understand that SURLYN 1605 has been "redesignated" as SURLYN 8940 and SURLYN 1557 has been "redesignated" as SURLYN 9650, see e.g. U.S. Pat. No. 4,679,795, col. 6, ll. 10-

Application/Control Number:  
95/000,123  
Art Unit: 3993

Page 79

15 and U.S. Pat. No. 5,150,906, col. 4, ll. 66. Furthermore, the Patent Owner in the Sullivan '873 Patent admitted that SURLYN 1605 is now designated as 8940 and was used in Nesbitt's first (inner) layer and is a sodium ion based low acid "(less than or equal to 15 weight percent methacrylic acid) ionomer resin having a flexural modulus of about 51,000 psi." See '873 Patent, col. 2, ll. 43-50. Moreover, as shown in the "Properties Grid for Selected Industrial Grades of SURLYN" SURLYN 9650's ordinate compared to the other grades of SURLYN is toward the "Low % Acid" side of the graph. Thus, based on this evidence, Nesbitt referencing Molitor '637 inherently teaches using as an inner layer at least one ionomer resin having no more than 16% by weight of alpha, beta-unsaturated carboxylic acid. Moreover, as stated above, it has been identified that one resin in Nesbitt has a flexural modulus of 51,000 psi. This teaching of flexural modulus falls within the range claimed (15,000 psi to 70,000 psi).

This rejection of claim 3 based on Nesbitt mentioning Molitor '637 in view of Molitor '751 was proposed by the third party requester in the request for reexamination and is being adopted essentially as proposed in the request.

#### Ground 18: Patent Owner's Argument

Patent Owner does not specifically argue this rejection. The arguments are the same as those at "Ground 4: Patent Owner's Argument," *supra*.

#### Ground 18: Third Party Requester's Comments

Third Party Requester does not specifically counter argue this rejection. The counter arguments are the same as those at "Ground 4: Third Party Requester's Comments," *supra*.



Application/Control Number:  
95/000,123  
Art Unit: 3993

Page 80

#### Ground 18: Examiner's Response to the Argument and Comments

Examiner agrees with the general comments of the Third Party Requester, and the rejection of claim 3 under 35 USC 103(a) as being obvious by Nesbitt in view of Molitor '751 is maintained. See "Ground 4: Examiner's Response to the Argument and Comments," *supra*.

#### Proposed third party requester rejection: Ground #19

The requester submits on pages 40 through 43 that claim 3 under 35 U.S.C. § 103(a) as being obvious over Proudfit in view of Molitor '637.

Claim 3 is rejected under 35 U.S.C. 103(a) as being unpatentable over Proudfit in view of Molitor '637.

Below is a claim chart identifying the claim limitations and where Proudfit discloses, teaches or suggests certain claim limitations.

Claim 3	Proudfit
A multi-layer golf ball comprising:	"This invention relates to golf balls, and more particularly, to a golf ball having a two-layer cover." (Proudfit, col. 1, ll. 11-12)
a spherical core;	"FIG. 1 illustrates a two-piece golf ball 10 which includes a solid core 11 and a cover 12 which comprises a relatively hard inner layer 13 of one or more ionomer resins and a relatively soft outer layer 14 of polymeric material." (Proudfit, col. 7, ll. 21-24; Figs 1 and 2) "Two specific solid core compositions used with the new two-layer cover had the composition describe in Table 1. One core was used in a golf ball which was designated as a 90 compression ball, and the other core was used in a golf ball which was designated as a 100 compression ball." (Proudfit, col. 7, ll. 51-55)

Application/Control Number:  
95/000,123  
Art Unit: 3993

Page 81

	See figure 1 of Proudfit for the disclosure of a spherical shaped core.								
an inner cover layer having Shore D hardness of at least 60 disposed on said spherical core,	"FIG. 1 illustrates a two-piece golf ball 10 which includes a solid core 11 and a <b>cover 12 which comprises a relatively hard inner layer 13 of one or more ionomer resins</b> and a relatively soft outer layer 14 of polymeric material." (Proudfit, col. 7, ll. 21-24) See below for Shore D limitation.								
said inner cover layer comprising an ionomeric resin including no more than 16% by weight of alpha, beta-unsaturated carboxylic acid;	"The composition of the inner cover layer is described in Table 6."  <table border="1"> <caption>TABLE 6</caption> <thead> <tr> <th colspan="2">Composition of Inner Layer of Cover (Parts by Weight)</th></tr> <tr> <th>Ionomer Type</th><th>Blend Ratio</th></tr> </thead> <tbody> <tr> <td>Sodium- Surlyn 8940</td><td>75%</td></tr> <tr> <td>Zinc- Surlyn 9910</td><td>25%</td></tr> </tbody> </table> (Proudfit, col. 8, ll. 22-30) See below for % by weight limitation.	Composition of Inner Layer of Cover (Parts by Weight)		Ionomer Type	Blend Ratio	Sodium- Surlyn 8940	75%	Zinc- Surlyn 9910	25%
Composition of Inner Layer of Cover (Parts by Weight)									
Ionomer Type	Blend Ratio								
Sodium- Surlyn 8940	75%								
Zinc- Surlyn 9910	25%								
and having a modulus of from about 15,000 to about 70,000 psi; and	"The standard resins have a flexural modulus in the range of about 30,000 to about 55,000 psi as measured by ATM Method D-790. (Standard resins are referred to as "hard SURLYNS" in U.S. Patent No. 4,884,814." (Proudfit, col. 5, l. 66 - col. 6, l. 1.) "Specific standard SURLYN resins which can be used in the inner layer include 8940 (sodium), 9910 (zinc)...." (Proudfit, col. 6, ll. 6-7.)								
an outer cover layer having a Shore D hardness of about 64 or less disposed about said inner cover layer and defining a plurality of dimples to form a multi-layer golf ball,	"FIG. 1 illustrates a two-piece golf ball 10 which includes a solid core 11 and a <b>cover 12 which comprises a relatively hard inner layer 13 of one or more ionomer resins and a relatively soft outer layer 14 of polymeric material.</b> " (Proudfit, col. 7, ll. 21-24) "... an <b>outer layer</b> of soft material such as balata or a <b>blend of balata and other elastomers.</b> " (Proudfit, col. 5, ll. 15-17) This material inherently has a Shore D hardness of less than 64, see the reasoning below.								
and said outer cover layer comprising a polyurethane material and	"... an <b>outer layer</b> of soft material such as balata or a <b>blend of balata and other elastomers.</b> " (Proudfit, col. 5, ll. 15-17)								
said outer cover layer having a thickness of 0.010 to 0.070 inches,	"The thickness of the outer layer can be within the range of about 0.0450 to 0.0650 inch to provide a total ball diameter of 1.680 inch. The preferred dimensions are ... an outer layer thickness of 0.0525 inch...." (Proudfit, col. 7, ll. 40-46)								

Application/Control Number:  
95/000,123  
Art Unit: 3993

Page 82

As shown above Proudfit discloses, teaches and suggests a three-piece golf ball (core, inner layer and outer layer) with the layers within the range of claimed thicknesses each layer made from a material having the mechanical properties substantially similar to the claimed mechanical properties. What Proudfit lacks in clearly disclosing are the particular mechanical and chemical properties of the claimed invention. However, Proudfit either incorporates by reference these mechanical and chemical properties and/or the materials used within the Proudfit golf ball inherently have these mechanical and chemical properties. For instance, Proudfit incorporates by reference U.S. Pat. No. 4,690,981 in the background of this invention. (Proudfit, col. 1, ll.39-43). The '981 patent discloses the preferably amount of unsaturated carboxylic acid is "from about 5[%] to about 15% by weight." ('981 Pat, col. 3, ll. 59-60). If Proudfit discloses using blends SURLYN the chemical for making the inner cover and the '981 Patent is the formulation for ionomer known in the art as SURLYN, then inherently grades of SURLYN such as SURLYN 8940 and SURLYN 9910 would be low acid ionomer resins containing no more than 16% by weight of an alpha, beta-unsaturated carboxylic acid. As taught from Exhibit I, SURLYN 8940 has a Shore D hardness of 65; SURLYN 9910 has a Shore D hardness of 64, see Exhibit I. Therefore, this cover blend inherently has a hardness of 60 or more. Proudfit discloses the outer layer being a blend of balata. An example of the blend is disclosed in Table 7 reproduced below.

Application/Control Number:  
95/000,123  
Art Unit: 3993

Page 83

TABLE 7	
Composition of Outer Layer (Parts by Weight)	
Trans PolyIsoprene (TP-301)	60.00
Polybutadiene	40.00
Zinc Oxide	1.00
Titanium Dioxide	17.00
Ultramarine Blue color	.50
Zinc DiAcrylate	35.00
Peroxide (Varox 230 XL)	2.50
Total	160.00

Note that Trans PolyIsoprene is basically the chemical name for balata and Polybutadiene is one of the first types of synthetic rubber or elastomer. As described in the Rule 132 Declaration of Edmund A. Hebert, the outer cover layer disclosed in Proudfit is the outer cover layer for the golf ball disclosed in Exhibit A and that cover has a Shore D hardness of 52. Thus, Proudfit's outer layer cover inherently has a Shore hardness of less than 64.

While Proudfit lacks disclosing the outer layer being made from polyurethane, in an analogous golf ball, Molitor '637 teaches using polyurethane, see Molitor '637, col. 5, ll. 33-41 and col. 18, examples 16 and 17. The request points out on page 42, ll. 17-25, why the use of polyurethane to one of ordinary skill in the art would be readily apparent given that those skilled in the art were more critical of the mechanical properties of a particular material than the chemical composition (material type) of the material and those remarks are incorporated herein. In other words, it was not critical to the "golf ball inventions" of those skilled in the art as to what materials were used to construct the golf balls so long as the materials had the desired mechanical properties which would yield the particular mechanical performance parameters the inventors were trying to achieve, e.g. improved processability; improved durability; cost effectiveness; user acceptance of performance (similar "click" and "feel" to balata) of the golf ball product made from those materials. The request on page 43, ll. 1-9, explains why one of

Application/Control Number:  
95/000,123  
Art Unit: 3993

Page 84

ordinary skill in the art would be motivated to substitute the outer cover layer taught in Molitor '637 for the outer cover layer disclosed in Proudfit and those remarks are incorporated herein.

Therefore, one of ordinary skill in the art would find the claimed invention as obvious for the motivation given in the request on page 43, ll. 1-9.

This rejection of claim 3 based on Proudfit in view of Molitor '637 was proposed by the third party requester in the request for reexamination and is being adopted essentially as proposed in the request.

#### Ground 19: Patent Owner's Argument

Patent Owner does not specifically argue this rejection. The arguments are the same as those at "Ground 5: Patent Owner's Argument," *supra*.

#### Ground 19: Third Party Requester's Comments

Third Party Requester does not specifically counter argue this rejection. The counter arguments are the same as those at "Ground 5: Third Party Requester's Comments," *supra*.

#### Ground 19: Examiner's Response to the Argument and Comments

Examiner agrees with the general comments of the Third Party Requester, and the rejection of claim 3 under 35 USC 103(a) as being obvious by Proudfit in view of Molitor '637 is maintained. See "Ground 5: Examiner's Response to the Argument and Comments," *supra*.

Application/Control Number:  
95/000,123  
Art Unit: 3993

Page 85

**Proposed third party requester rejection: Ground #20**

The requester submits on pages 43 through 45 that claim 3 under 35 U.S.C. § 103(a) as being obvious over Proudfit, U.S. Pat. No. 5,314,187, in view of Wu, U.S. Pat. No. 5,334,673 (Wu).

Claim 3 is rejected under 35 U.S.C. 103(a) as being unpatentable over Proudfit in view of Wu, as evidenced by Exhibit C.

Below is a claim chart identifying the claim limitations and where Proudfit discloses, teaches or suggests certain claim limitations.

Claim 3	Proudfit
A multi-layer golf ball comprising:	"This <b>invention relates to golf balls</b> , and more particularly, to a golf ball having a two-layer cover." (Proudfit, col. 1, ll. 11-12)
a spherical core;	"FIG. 1 illustrates a two-piece golf ball 10 which includes a solid <b>core 11</b> and a cover 12 which comprises a relatively hard inner layer 13 of one or more ionomer resins and a relatively soft outer layer 14 of polymeric material." (Proudfit, col. 7, ll. 21-24; Figs 1 and 2) "Two specific solid core compositions used with the new two-layer cover had the composition describe in Table 1. One core was used in a golf ball which was designated as a 90 compression ball, and the other core was used in a golf ball which was designated as a 100 compression ball." (Proudfit, col. 7, ll. 51-55) See figure 1 of Proudfit for spherical shaped core.
an inner cover layer having Shore D hardness of at least 60 disposed on said spherical core,	"FIG. 1 illustrates a two-piece golf ball 10 which includes a solid core 11 and a <b>cover 12 which comprises a relatively hard inner layer 13 of one or more ionomer resins</b> and a relatively soft outer layer 14 of polymeric material." (Proudfit, col. 7, ll. 21-24) See below with respect to the Shore D limitation
said inner cover layer comprising an ionomeric resin including no more than 16% by weight of alpha, beta-unsaturated carboxylic acid;	"The composition of the inner cover layer is described in Table 6."

Application/Control Number:  
95/000,123  
Art Unit: 3993

Page 86

	<p style="text-align: center;"><b>TABLE 6</b></p> <hr/> <p style="text-align: center;">Composition of Inner Layer of Cover (Parts by Weight)</p> <hr/> <table> <tr> <th style="text-align: center;">Ionomer Type</th><th style="text-align: center;">Blend Ratio</th></tr> <tr> <td style="text-align: center;">Sodium- Surlyn 8940</td><td style="text-align: center;">75%</td></tr> <tr> <td style="text-align: center;">Zinc- Surlyn 9910</td><td style="text-align: center;">25%</td></tr> </table> <hr/> <p>(Proudfit, col. 8, ll. 22-30) See below for the % by weight limitation.</p>	Ionomer Type	Blend Ratio	Sodium- Surlyn 8940	75%	Zinc- Surlyn 9910	25%
Ionomer Type	Blend Ratio						
Sodium- Surlyn 8940	75%						
Zinc- Surlyn 9910	25%						
and having a modulus of from about 15,000 to about 70,000 psi; and	<p>"The standard resins have a flexural modulus in the range of about 30,000 to about 55,000 psi as measured by ATM Method D-790. (Standard resins are referred to as "hard SURLYNS" in U.S. Patent No. 4,884,814." (Proudfit, col. 5, l. 66 - col. 6, l. 1.)</p> <p>"Specific standard SURLYN resins which can be used in the inner layer include 8940 (sodium), 9910 (zinc)...." (Proudfit, col. 6, ll. 6-7.)</p>						
an outer cover layer having a Shore D hardness of about 64 or less disposed about said inner cover layer and defining a plurality of dimples to form a multi-layer golf ball,	<p>"FIG. 1 illustrates a two-piece golf ball 10 which includes a solid core 11 and a <b>cover 12</b> which comprises a relatively hard inner layer 13 of one or more ionomer resins <b>and a relatively soft outer layer 14 of polymeric material.</b>" (Proudfit, col. 7, ll. 21-24)</p> <p>"... an <b>outer layer</b> of soft material such as balata or a <b>blend of balata and other elastomers.</b>" (Proudfit, col. 5, ll. 15-17)</p> <p>This material inherently has a Shore D hardness of less than 64, see the reasoning below.</p>						
and said outer cover layer comprising a polyurethane material and	<p>"... an <b>outer layer</b> of soft material such as balata or a <b>blend of balata and other elastomers.</b>" (Proudfit, col. 5, ll. 15-17)</p>						
said outer cover layer having a thickness of 0.010 to 0.070 inches,	<p>"The thickness of the outer layer can be within the range of about 0.0450 to 0.0650 inch to provide a total ball diameter of 1.680 inch. The preferred dimensions are ... an outer layer thickness of 0.0525 inch...." (Proudfit, col. 7, ll. 40-46)</p>						

Wu teaches that polyurethane was being used as the outer layer of golf ball *circa* 1993.

Wu further teaches in col. 1:36-46 that SURLYN covered golf balls lack the "click" and "feel" of balata which golfers have become accustomed to such sensations and polyurethane covered golf balls can be made to have a similar "click" and "feel" of balata. Wu also at least teaches that polyurethanes made according to its invention will have Shore D hardness directly proportional to the degree of cure of the cover; and this Shore D hardness ranges from 10 to 30,



Application/Control Number:  
95/000,123  
Art Unit: 3993

Page 87

preferably 12 to 20 on the Shore D scale, see col. 6:26-38. This teaching of Shore D hardness is directed to an intermediate curing step product prior to the final molding process to finish the golf ball. Exhibit C demonstrates the actual finished golf ball product having the cover layer that Wu teaches within its disclosure. Exhibit C teaches that the golf ball taught therein is covered by the following patents: 4,783,078; 4,846,910; 4,858,923; 4,904,320; 4,915,390; 5,007,594; 5,080,367; 5,133,509; **5,334,673**; and D339,074. The '673 Patent teaches the cover sock of the Exhibit C finished golf ball. Exhibit C teaches that the golf ball taught therein has a cover material made from an "elastomer", having a thickness of .050", and 58 Shore D hardness. All three properties are within the range of mechanical properties of the claim invention (polyurethane is an elastomer, cover layer thickness ranges from 0.010 to 0.070 inches and the Shore D hardness is less than 64). Because it has been admitted by the inventor of the Sullivan '893 patent that the particular chemical properties of the materials (the chemical composition) used in the construction of a golf ball lack criticality as compared to the mechanical properties (the Shore D hardness, flexural modulus, layer thickness) of those compounds used for constructing the different layers (Exhibit G at 334), one of ordinary skill in the art at the time the invention was made would find it obvious to incorporate the teachings of Wu which inherently include the teachings of Shore hardness for the fully cured cover layer as taught in Exhibit C as obvious equivalent materials in order to achieve the same end result of providing a cover layer that has the same "click" and "feel" of a balata cover which the extra durability of an elastomeric material.

Application/Control Number:  
95/000,123  
Art Unit: 3993

Page 88

This rejection of claim 3 based on Proudfit in view of Wu as evidenced by Exhibit C was proposed by the third party requester in the request for reexamination and is being adopted essentially as proposed in the request.

#### Ground 20: Patent Owner's Argument

Patent Owner does not specifically argue this rejection. The arguments are the same as those at "Ground 6: Patent Owner's Argument," *supra*.

#### Ground 20: Third Party Requester's Comments

Third Party Requester does not specifically counter argue this rejection. The counter arguments are the same as those at "Ground 6: Third Party Requester's Comments," *supra*.

#### Ground 20: Examiner's Response to the Argument and Comments

Examiner agrees with the general comments of the Third Party Requester, and the rejection of claim 3 under 35 USC 103(a) as being obvious by Proudfit in view of Wu is maintained. See "Ground 6: Examiner's Response to the Argument and Comments," *supra*.

#### **Proposed third party requester rejection: Ground #21**

The requester submits on pages 43 through 45 that claim 3 under 35 U.S.C. § 103(a) as being obvious over Proudfit in view of Molitor '751.

Application/Control Number:  
95/000,123  
Art Unit: 3993

Page 89

Claim 3 is rejected under 35 U.S.C. 103(a) as being unpatentable over Proudfit in view of Molitor '751.

Below is a claim chart identifying the claim limitations and where Proudfit discloses, teaches or suggests certain claim limitations.

Claim 3	Proudfit						
A multi-layer golf ball comprising:	"This <b>invention relates to golf balls</b> , and more particularly, to a golf ball having a two-layer cover." (Proudfit, col. 1, ll. 11-12)						
a spherical core;	"FIG. 1 illustrates a two-piece golf ball 10 which includes a solid <b>core 11</b> and a cover 12 which comprises a relatively hard inner layer 13 of one or more ionomer resins and a relatively soft outer layer 14 of polymeric material." (Proudfit, col. 7, ll. 21-24; Figs 1 and 2) "Two specific solid core compositions used with the new two-layer cover had the composition describe in Table 1. One core was used in a golf ball which was designated as a 90 compression ball, and the other core was used in a golf ball which was designated as a 100 compression ball." (Proudfit, col. 7, ll. 51-55) See figure 1 of Proudfit for spherical shaped core.						
an inner cover layer having Shore D hardness of at least 60 disposed on said spherical core,	"FIG. 1 illustrates a two-piece golf ball 10 which includes a solid core 11 and a <b>cover 12 which comprises a relatively hard inner layer 13 of one or more ionomer resins</b> and a relatively soft outer layer 14 of polymeric material." (Proudfit, col. 7, ll. 21-24) See below with respect to the Shore D limitation.						
said inner cover layer comprising an ionomeric resin including no more than 16% by weight of alpha, beta-unsaturated carboxylic acid;	"The composition of the inner cover layer is described in Table 6."  <table border="1"> <caption><b>TABLE 6</b> Composition of Inner Layer of Cover (Parts by Weight)</caption> <tr> <th>Ionomer Type</th><th>Blend Ratio</th></tr> <tr> <td>Sodium - Surlyn 8940</td><td>75%</td></tr> <tr> <td>Zinc - Surlyn 9910</td><td>25%</td></tr> </table> (Proudfit, col. 8, ll. 22-30) See below with respect to the % by weight limitation.	Ionomer Type	Blend Ratio	Sodium - Surlyn 8940	75%	Zinc - Surlyn 9910	25%
Ionomer Type	Blend Ratio						
Sodium - Surlyn 8940	75%						
Zinc - Surlyn 9910	25%						
and having a modulus of from about 15,000 to about 70,000 psi; and	"The standard resins have a flexural modulus in the range of about 30,000 to about 55,000 psi as measured by ATM Method D-790. (Standard resins are referred to as "hard SURLYNS" in U.S. Patent No. 4,884,814." (Proudfit, col. 5, l. 66 - col. 6, l. 1.)						

Application/Control Number:  
95/000,123  
Art Unit: 3993

Page 90

	"Specific standard SURLYN resins which can be used in the inner layer include 8940 (sodium), 9910 (zinc)...." (Proudfit, col. 6, ll. 6-7.)
an outer cover layer having a Shore D hardness of about 64 or less disposed about said inner cover layer and defining a plurality of dimples to form a multi-layer golf ball,	"FIG. 1 illustrates a two-piece golf ball 10 which includes a solid core 11 and a <b>cover 12</b> which comprises a relatively hard inner layer 13 of one or more ionomer resins <b>and a relatively soft outer layer 14 of polymeric material.</b> " (Proudfit, col. 7, ll. 21-24) "... an <b>outer layer</b> of soft material such as balata or a <b>blend of balata and other elastomers.</b> " (Proudfit, col. 5, ll. 15-17) This material inherently has a Shore D hardness of less than 64, see the reasoning below.
and said outer cover layer comprising a polyurethane material and	"... an <b>outer layer</b> of soft material such as balata or a <b>blend of balata and other elastomers.</b> " (Proudfit, col. 5, ll. 15-17)
said outer cover layer having a thickness of 0.010 to 0.070 inches,	"The thickness of the outer layer can be within the range of about 0.0450 to 0.0650 inch to provide a total ball diameter of 1.680 inch. The preferred dimensions are ... an outer layer thickness of 0.0525 inch...." (Proudfit, col. 7, ll. 40-46)

As expressed in the request on page 45 and identified above within the claim chart, Proudfit teaches a golf ball have a two-piece cover including a hard, ionomeric inner cover layer and a soft balata blend outer cover layer. Proudfit lacks in disclosing the use of polyurethane as the material for the outer cover layer. Instead, as shown in Table 7, reproduced below, Proudfit discloses the outer cover layer being made of a blend of balata.

TABLE 7	
Composition of Outer Layer (Parts by Weight)	
Trans Polyisoprene (TP-301)	60.00
Polybutadiene	40.00
Zinc Oxide	1.00
Titanium Dioxide	17.00
Ultramarine Blue color	.50
Zinc DiAcrylate	35.00
Peroxide (Varon 230 XL)	2.50
Total	160.00

However, those skilled in the art understand the disadvantages of balata covered golf balls. As admitted by the patent owner

Application/Control Number:  
95/000,123  
Art Unit: 3993

Page 91

Despite all the benefits of balata, balata covered golf balls are easily cut and/or damaged if mis-hit. Golf balls produced with balata or balata-containing cover compositions therefore have a relatively short lifespan.

(Sullivan '873, col. 1, ll. 39-42). With this disadvantage of balata covered golf balls, golf ball designers looked for materials that would provide the same "click" and "feel" golfers expected and have increased durability.

As pointed out in the request on page 45, lines 11-15, in an analogous golf ball, Molitor '751 teaches that:

It has now been discovered that a key to manufacturing a two-piece ball having playability properties similar to wound, balata-covered balls is to provide about an inner resilient molded core a cover having a shore C hardness less than 85, preferably 70-80, and most preferably 72-76. The novel cover of the golf ball of the invention is made of a composition comprising a blend of (1) a thermoplastic urethane having a shore A hardness less than 95 and (2) an ionomer having a shore D hardness greater than 55. The ionomer comprises olefinic groups having two to four carbon atoms copolymerized with acrylic or methacrylic acid groups and cross-linked with metal ions, preferably sodium or zinc ions. **The primary components of the blended cover are set at a weight ratio so as to result in a cover material after molding having a shore C hardness within the range of 70 to 85, preferably 72 to 76.** Preferably, the urethane component of the cover material has a tensile strength greater than 2500 psi and an elongation at break greater than 250%. A preferred cover material comprises about 8 parts of the thermoplastic urethane and between 1 and 4 parts ionomer. Preferably, the cover is no greater than 0.060 inch thick. Thinner covers appear to maximize the short iron playability characteristics of the balls.

(Molitor '751, col. 33-57 (emphasis added)). Thus, Molitor '751 teaches having a outer cover layer with a Shore C hardness less than 85 and preferably between 72 and 76. Moreover, Molitor '751 teaches what golf balls are included in the definition of "two-piece" ball within its instant specification.

The phrase "two-piece ball" as used herein refers primarily to balls consisting of a molded core and a cover, **but also includes balls having a separate solid layer beneath the cover as disclosed, for example, in U.S. Pat. No. 4,431,193 to Nesbitt, and other balls having non-wound cores.**

Molitor '751, col. 3, ll. 7-12 (emphasis added)). Proudfit, likewise, teaches the two-piece golf balls can fit within this definition.

Application/Control Number:  
95/000,123  
Art Unit: 3993

Page 92

FIG. 1 illustrates a two-piece golf ball 10 which includes a solid core 11 and a cover 12 which comprises a relatively hard inner layer 13 of one or more ionomer resins and a relatively soft outer layer 14 of polymeric material.

(Proudfit, col. 7, ll. 21-24).

As stated above, Molitor '751 teaches the cover of the golf ball has a Shore C hardness of less than 85, preferably 70-80, most preferably 72-76. As described in Molitor '751's TABLE bridging columns 7 and 8, Sample 8 constitutes one of the preferred embodiments and its cover is taught to have a Shore C hardness of 73. Patent Owner has admitted that a Shore C hardness of 73 is equal to a Shore D hardness of 47, see U.S. Pat. No. 6,905,648, Table 19 (Exhibit L). Thus, a cover having a Shore C hardness of between 72 and 76 will inherently have a Shore D hardness of less than 64.

How one of ordinary skill in the art would discover this inherent mechanical property of Shore D hardness for the polyurethane material used in Molitor '751 is by "translating" a Shore C value to a Shore D value for the polyurethane material. How one of ordinary skill in the art "translates" a Shore C value to a Shore D value is by taking the known Shore hardness values with a given range, in this instance Shore C, for given materials, in this instance a polyurethane golf ball covers materials, and taking corresponding measurements with a different set of Shore gauges, in this instance Shore D (but could also be Shore A). A resulting trendline plot occurs from performing this procedure wherein the range of known Shore C values are the abscissa and the range of measured Shore D values are the ordinate. Then, said plot can be use to read equivalent Shore D value for any given Shore C value within the known range of Shore C. This is how one of ordinary skill in the art can know the equivalent Shore D or even Shore A hardness value for any given Shore C hardness value.

Application/Control Number:  
95/000,123  
Art Unit: 3993

Page 93

As stated in the request on page 46

Therefore, it would have been obvious to one of ordinary skill in the art at the time of the invention to substitute the soft outer cover layer of Nesbitt and replace it with an outer cover layer made of the soft polyurethane material taught by Molitor '751 to provide a golf ball that includes "playability properties as good or better than balata-covered wound balls but are significantly more durable," and "have better wood playability properties than conventional two-piece balls, and permit experienced golfers to apply spin so as to fade or draw a shot" while having improved puttability. (Molitor '751, col. 2, ll. 61-68)

This rejection of claim 3 based on Proudfit in view of Molitor '751 was proposed by the third party requester in the request for reexamination and is being adopted essentially as proposed in the request.

#### Ground 21: Patent Owner's Argument

Patent Owner does not specifically argue this rejection. The arguments are the same as those at "Ground 7: Patent Owner's Argument," *supra*.

#### Ground 21: Third Party Requester's Comments

Third Party Requester does not specifically counter argue this rejection. The counter arguments are the same as those at "Ground 7: Third Party Requester's Comments," *supra*.

#### Ground 21: Examiner's Response to the Argument and Comments

Examiner agrees with the general comments of the Third Party Requester, and the rejection of claim 3 under 35 USC 103(a) as being obvious by Nesbitt in view of Molitor



Application/Control Number:  
95/000,123  
Art Unit: 3993

Page 94

'751 is maintained. See "Ground 7: Examiner's Response to the Argument and Comments," *supra*.

Re. Claim 4

**Proposed third party requester rejection: Ground #22**

The requester submits on pages 47 and 48 of the request that claim 4 is unpatentable under 35 U.S.C. § 102(b) as being anticipated by Nesbitt, U.S. Pat. No. 4,431,193, (Nesbitt).

In the request on pages 47 through 48 the third party requester proposes that claim 3 be rejected based upon Nesbitt alone with the incorporation by reference of Molitor '637. The third party requester points out that Molitor '637 is incorporated by reference into Nesbitt because Nesbitt refers to Molitor '637. (See Nesbitt col. 3, ll. 54-60).

**This rejection is adopted in this office action.**

Claim 4 is rejected under 35 U.S.C. § 103(a) as being unpatentable over Nesbitt in view of Molitor '637.

The below claim chart identifies the new limitations introduced by dependent claim 4.

Claim 4	Nesbitt
wherein said inner cover layer has a thickness of about 0.050 inches, and	"It is found that the inner layer of hard, high flexural modulus resinous material such as SURLYN resin type 1605, is preferably of a thickness in a range of 0.020 inches and 0.070 inches." (Nesbitt, col. 3, ll. 19-23).
said outer cover layer has a thickness of about 0.055 inches,	"The thickness of the outer layer or cover 16 of soft, low flexural modulus resin such as SURLYN type 1855, may be in the range of 0.020 inches and 0.100 inches." (Nesbitt, col. 3, ll. 22-25).
said golf ball having an overall diameter of 1.680 inches or more.	"According to the United States Golf Association Rules, the minimum diameter prescribed for a golf ball is 1.680 inches...." (Nesbitt, col. 2: ll. 50-52.) "This center or core 12 and inner layer 14 of hard resinous material in the form of a sphere is then remolded into a dimpled golf ball of a diameter of

Application/Control Number:  
95/000,123  
Art Unit: 3993

Page 95

	1.680 inches minimum with an outer or cover layer 16 of a soft, low flexural modulus resin ...." (Nesbitt, col. 3, ll. 34-38.)
--	--

Thus, because all new limitations of claim 4 are found within Nesbitt and from the above analysis within Ground #16 claim 3 is anticipated by with incorporation by reference of Molitor '637, claim 4 is likewise anticipated by Nesbitt with incorporation by reference of Molitor '637.

This rejection of claim 4 based on Nesbitt with incorporation by reference of Molitor '637 was proposed by the third party requester in the request for reexamination and is being adopted essentially as proposed in the request.

#### Ground 22: Patent Owner's Argument

Patent Owner does not argue this rejection.

#### Ground 22: Third Party Requester's Comments

Third Party Requester's arguments for this claim are the same as given *supra* at "Ground 1: Third Party Requester's Comments."

#### Ground 22: Examiner's Response to the Argument and Comments

Upon review, the Examiner agrees with the arguments of the Third Party Requester and adopts this suggested rejection. See "Ground 1: Examiner's Response to the Argument and Comments," *supra*.

**Proposed third party requester rejection: Ground #23**

Application/Control Number:  
95/000,123  
Art Unit: 3993

Page 96

As an alternative to Ground #21, the requester submits on pages 47 and 48 of the request that claim 4 is unpatentable under 35 U.S.C. § 103(a) as being obvious over Nesbitt, U.S. Pat. No. 4,431,193, in view of Molitor et al., U.S. Pat. No. 4,274,637, (Molitor '637).

Claim 4 is rejected under 35 U.S.C. § 103(a) as being unpatentable over Nesbitt in view of Molitor '637.

The below claim chart identifies the new limitations introduced by dependent claim 4.

Claim 4	Nesbitt
wherein said inner cover layer has a thickness of about 0.050 inches, and	"It is found that the inner layer of hard, high flexural modulus resinous material such as SURLYN resin type 1605, is preferably of a thickness in a range of 0.020 inches and 0.070 inches." (Nesbitt, col. 3, ll. 19-23).
said outer cover layer has a thickness of about 0.055 inches,	"The thickness of the outer layer or cover 16 of soft, low flexural modulus resin such as SURLYN type 1855, may be in the range of 0.020 inches and 0.100 inches." (Nesbitt, col. 3, ll. 22-25).
said golf ball having an overall diameter of 1.680 inches or more.	"According to the United States Golf Association Rules, the minimum diameter prescribed for a golf ball is 1.680 inches...." (Nesbitt, col. 2: ll. 50-52.) "This center or core 12 and inner layer 14 of hard resinous material in the form of a sphere is then remolded into a dimpled golf ball of a diameter of 1.680 inches minimum with an outer or cover layer 16 of a soft, low flexural modulus resin ...." (Nesbitt, col. 3, ll. 34-38.)

Thus, because all new limitations of claim 4 are found within Nesbitt and from the above analysis within Ground #16 claim 3 is obvious by Nesbitt in view of Molitor '637, claim 4 is likewise obvious by Nesbitt in view of Molitor '637.

This rejection of claim 4 based on Nesbitt in view of Molitor '637 was proposed by the third party requester in the request for reexamination and is being adopted essentially as proposed in the request.

Ground 23: Patent Owner's Argument

Application/Control Number:  
95/000,123  
Art Unit: 3993

Page 97

Patent Owner argues that the minimum thickness for the outer layer of the cover of Molitor '637 is 0.060 inches while this claim requires a thickness of 0.055 for this layer (Patent Owner's Response at middle of page 17).

#### Ground 23: Third Party Requester's Comments

Third Party Requester counter argues that Nesbitt discloses a range of 0.020 to 0.100 inches for the thickness of the outer cover of a golf ball (Nesbitt at col. 3, lines 22-25). The holding in *KRS* would dictate that one of ordinary skill would know to use the material of Molitor '637, polyurethane, with the thickness of Nesbitt (Third Party Requester's Comments at middle of page 21).

#### Ground 23: Examiner's Response to the Argument and Comments

Examiner agrees with the comments of the Third Party Requester, and the rejection of claim 4 under 35 USC 103(a) as being obvious by Nesbitt in view of Molitor '637 is maintained. Since Nesbitt references the Molitor '637 patent, one of ordinary skill would logically look at its complete disclosure which includes the use of polyurethane as an outer cover. Using the thickness values of Nesbitt with polyurethane would be obvious because Nesbitt states that "the thickness of the inner layer . . . and the thickness of outer layer . . . may be varied to secure the advantages herein mentioned" at col. 3, lines 16-19. The advantages Nesbitt wishes to achieve are both distance and feel in one golf ball (Nesbitt at col. 2, lines 1-9).

**Proposed third party requester rejection: Ground #24**

Application/Control Number:  
95/000,123  
Art Unit: 3993

Page 98

As an alternative to Ground #21, the requester submits on pages 47 and 48 of the request that claim 4 is unpatentable under 35 U.S.C. § 103(a) as being obvious over Nesbitt, U.S. Pat. No. 4,431,193, in view of Wu, U.S. Pat. No. 5,334,673.

Claim 4 is rejected under 35 U.S.C. § 103(a) as being unpatentable over Nesbitt in view of Wu.

The below claim chart identifies the new limitations introduced by dependent claim 4.

Claim 4	Nesbitt
wherein said inner cover layer has a thickness of about 0.050 inches, and	"It is found that the inner layer of hard, high flexural modulus resinous material such as SURLYN resin type 1605, is preferably of a thickness in a range of 0.020 inches and 0.070 inches." (Nesbitt, col. 3, ll. 19-23).
said outer cover layer has a thickness of about 0.055 inches,	"The thickness of the outer layer or cover 16 of soft, low flexural modulus resin such as SURLYN type 1855, may be in the range of 0.020 inches and 0.100 inches." (Nesbitt, col. 3, ll. 22-25).
said golf ball having an overall diameter of 1.680 inches or more.	"According to the United States Golf Association Rules, the minimum diameter prescribed for a golf ball is 1.680 inches...." (Nesbitt, col. 2: ll. 50-52.) "This center or core 12 and inner layer 14 of hard resinous material in the form of a sphere is then remolded into a dimpled golf ball of a diameter of 1.680 inches minimum with an outer or cover layer 16 of a soft, low flexural modulus resin ...." (Nesbitt, col. 3, ll. 34-38.)

Thus, because all new limitations of claim 4 are found within Nesbitt and from the above analysis within Ground #17 claim 3 is obvious by Nesbitt in view of Wu, claim 4 is likewise obvious by Nesbitt in view of Wu.

This rejection of claim 4 based on Nesbitt in view of Wu was proposed by the third party requester in the request for reexamination and is being adopted essentially as proposed in the request.

Ground 24: Patent Owner's Argument

Application/Control Number:  
95/000,123  
Art Unit: 3993

Page 99

Patent Owner does not specifically argue this rejection.

#### Ground 24: Third Party Requester's Comments

Third Party Requester does not specifically counter argue this rejection.

#### Ground 24: Examiner's Response to the Argument and Comments

Examiner agrees with the general comments of the Third Party Requester, and the rejection of claim 4 under 35 USC 103(a) as being obvious by Nesbitt in view of Wu is maintained. See "Ground 3: Examiner's Response to the Argument and Comments," *supra*.

#### **Proposed third party requester rejection: Ground #25**

As an alternative to Ground #21, the requester submits on pages 47 and 48 of the request that claim 4 is unpatentable under 35 U.S.C. § 103(a) as being obvious over Nesbitt, U.S. Pat. No. 4,431,193, in view of Molitor et al., U.S. Pat. No. 4,674,751.

Claim 4 is rejected under 35 U.S.C. § 103(a) as being unpatentable over Nesbitt in view of Molitor '751.

The below claim chart identifies the new limitations introduced by dependent claim 4.

Claim 4	Nesbitt
wherein said inner cover layer has a thickness of about 0.050 inches, and	"It is found that the inner layer of hard, high flexural modulus resinous material such as SURLYN resin type 1605, is preferably of a thickness in a range of 0.020 inches and 0.070 inches." (Nesbitt, col. 3, ll. 19-23).
said outer cover layer has a thickness of about 0.055 inches,	"The thickness of the outer layer or cover 16 of soft, low flexural modulus resin such as SURLYN type 1855, may be in the range of 0.020 inches and 0.100 inches." (Nesbitt, col. 3, ll. 22-25).

Application/Control Number:  
95/000,123  
Art Unit: 3993

Page 100

said golf ball having an overall diameter of 1.680 inches or more.	<p>"According to the United States Golf Association Rules, the minimum diameter prescribed for a golf ball is 1.680 inches...." (Nesbitt, col. 2: ll. 50-52.)</p> <p>"This center or core 12 and inner layer 14 of hard resinous material in the form of a sphere is then remolded into a dimpled golf ball of a diameter of 1.680 inches minimum with an outer or cover layer 16 of a soft, low flexural modulus resin ...." (Nesbitt, col. 3, ll. 34-38.)</p>
--	---

Thus, because all new limitations of claim 4 are found within Nesbitt and from the above analysis within Ground #18 claim 3 is obvious by Nesbitt in view of Molitor '751, claim 4 is likewise obvious by Nesbitt in view of Molitor '751.

This rejection of claim 4 based on Nesbitt in view of Molitor '751 was proposed by the third party requester in the request for reexamination and is being adopted essentially as proposed in the request.

#### Ground 25: Patent Owner's Argument

Patent Owner does not specifically argue this rejection.

#### Ground 25: Third Party Requester's Comments

Third Party Requester does not specifically counter argue this rejection.

#### Ground 25: Examiner's Response to the Argument and Comments

Examiner agrees with the general comments of the Third Party Requester, and the rejection of claim 4 under 35 USC 103(a) as being obvious by Nesbitt in view of Molitor '751 is maintained. See "Ground 4: Examiner's Response to the Argument and Comments," *supra*.



Application/Control Number:  
95/000,123  
Art Unit: 3993

Page 101

**Proposed third party requester rejection: Ground #26**

The requester submits on pages 48 and 49 of the request that claim 4 is unpatentable under 35 U.S.C. § 103(a) as being obvious over Proudfit, U.S. Pat. No. 5,314,187, (Proudfit) in view of Molitor et al., U.S. Pat. No. 4,274,637.

**This rejection is not adopted.**

Proudfit's preferred embodiment's inner layer is 0.037 inches thick, see col. 7:43-44. Claim 4 requires the inner layer to be about 0.050 inches thick. Those skilled in the art measure thickness to the thousandths of an inch. The difference between the Proudfit preferred embodiment and the claimed invention is 0.013 inches or thirteen hundredths of an inch. This difference equates to a difference of a factor of ten. Further, the requester admits that it is not the chemical but the mechanical properties of the materials used in making golf balls important to those skilled in the art. One of the mechanical properties in constructing a golf ball with materials is the thickness to make a given layer. Therefore, for these reasons this proposed rejection is not adopted.

**Ground 26: Patent Owner's Argument**

Patent Owner does not specifically argue this rejection.

**Ground 26: Third Party Requester's Comments**

Third Party Requester does not specifically counter argue this rejection.

Application/Control Number:  
95/000,123  
Art Unit: 3993

Page 102

Ground 26: Examiner's Response to the Argument and Comments

For the reasons stated in the above explanation, the non-adoption of this rejection is maintained.

**Proposed third party requester rejection: Ground #27**

The requester submits on pages 48 and 49 of the request that claim 4 is unpatentable under 35 U.S.C. § 103(a) as being obvious over Proudfit, U.S. Pat. No. 5,314,187, (Proudfit) in view of Wu, U.S. Pat. No. 5,334,673, (Wu).

**This rejection is not adopted.**

Proudfit's preferred embodiment's inner layer is 0.037 inches thick, see col. 7:43-44. Claim 4 requires the inner layer to be about 0.050 inches thick. Those skilled in the art measure thickness to the thousandths of an inch. The difference between the Proudfit preferred embodiment and the claimed invention is 0.013 inches or thirteen hundredths of an inch. This difference equates to a difference of a factor of ten. Further, the requester admits that it is not the chemical but the mechanical properties of the materials used in making golf balls important to those skilled in the art. One of the mechanical properties in constructing a golf ball with materials is the thickness to make a given layer. Therefore, for these reasons this proposed rejection is not adopted.

Ground 27: Patent Owner's Argument

Patent Owner does not specifically argue this rejection.

Application/Control Number:  
95/000,123  
Art Unit: 3993

Page 103

Ground 27: Third Party Requester's Comments

Third Party Requester does not specifically counter argue this rejection.

Ground 27: Examiner's Response to the Argument and Comments

For the reasons stated in the above explanation, the non-adoption of this rejection is maintained.

**Proposed third party requester rejection: Ground #28**

The requester submits on pages 48 and 49 that claim 4 is unpatentable under 35 U.S.C. § 103(a) as being obvious over Proudfit, U.S. Pat. No. 5,314,187, (Proudfit) in view of Molitor et al., U.S. Pat. No. 4,674,751, (Molitor '751).

**This rejection is not adopted.**

Proudfit's preferred embodiment's inner layer is 0.037 inches thick, see col. 7:43-44. Claim 4 requires the inner layer to be about 0.050 inches thick. Those skilled in the art measure thickness to the thousandths of an inch. The difference between the Proudfit preferred embodiment and the claimed invention is 0.013 inches or thirteen hundredths of an inch. This difference equates to a difference of a factor of ten. Further, the requester admits that it is not the chemical but the mechanical properties of the materials used in making golf balls important to those skilled in the art. One of the mechanical properties in constructing a golf ball with materials is the thickness to make a given layer. Therefore, for these reasons this proposed rejection is not adopted.

Application/Control Number:  
95/000,123  
Art Unit: 3993

Page 104

Ground 28: Patent Owner's Argument

Patent Owner does not specifically argue this rejection.

Ground 28: Third Party Requester's Comments

Third Party Requester does not specifically counter argue this rejection.

Ground 28: Examiner's Response to the Argument and Comments

For the reasons stated in the above explanation, the non-adoption of this rejection is maintained.

Re. Claim 5

**Proposed third party requester rejection: Ground #29**

The requester submits on pages 50 through 54 that claim 5 is unpatentable under 35 U.S.C. § 102(b) as being anticipated by Nesbitt, U.S. Pat. No. 4,431,193.

In the request on pages 50 through 54 the third party requester proposes that claim 5 be rejected based upon Nesbitt alone with the incorporation by reference of Molitor '637. The third party requester points out that Molitor '637 is incorporated by reference into Nesbitt because Nesbitt refers to Molitor '637. (See Nesbitt col. 3, ll. 54-60).

**This rejection is adopted in this office action.**

Claim 5 is rejected under 35 U.S.C. 102(b) as anticipated by Nesbitt.

Below is a claim chart identifying the claim limitations and which reference Nesbitt or Molitor '637 discloses, teaches or suggests the claim limitations.

Application/Control Number:  
95/000,123  
Art Unit: 3993

Page 105

Claim 5	Nesbitt (primary) with Molitor '637 (incorporation by reference)
A multi-layer golf ball comprising:	"The disclose embraces a golf ball and method of making same...." (Nesbitt, Abstract; FIGS 1 & 2)
a spherical core;	"Referring to the drawings in detail there is illustrated a golf ball 10 which comprises a solid center or <b>core</b> formed as a solid body of resilient polymeric material or rubber-like material in the shape of a <b>sphere</b> ." (Nesbitt, col. 2, ll. 31-34).
an inner cover layer disposed over said spherical core to form a spherical intermediate ball,	"Disposed on the spherical center or core 12 is a <b>first layer, lamination, ply or inner cover 14</b> of molded hard, highly flexural modulus resinous material...." (Nesbitt, col. 2, ll. 34-37).
said inner cover having Shore D hardness of at least 60,	"[I]nner cover 14 of molded hard, highly flexural modulus resinous material such as type 1605 SURLYN marketed by E.I. DuPont de Nemours." (Nesbitt, col. 2, ll. 36-38). "[A] center or core 12 ... is molded with a layer of hard, high modulus SURLYN resin, such as SURLYN type 1605..." (Nesbitt, col. 3, ll. 27-29). See below with respect to the Shore D limitation
said inner cover layer comprising an ionomeric resin having no more than 16% by weight of an alpha, beta-unsaturated carboxylic acid and	"Reference is made to the application Ser. No. 155,658, of Robert P. Molitor issued into U.S. Pat. No. 4,274,637 which describes a number of foamable compositions of a character which may be employed for one or both layers 14 [inner] and 16 [outer] for the golf ball of this invention." (Nesbitt, col. 3, ll. 56-61). <b>Molitor '637</b> : Molitor teaches, in examples 1-7, cover materials including a blend of two ionomer resins: SURLYN 1605 and SURLYN 1557. (Molitor '637, col. 14, l. 22 to col. 16, l. 34). See below with respect to % by weight limitation.
having a modulus of from about 15,000 to about 70,000 psi,	see below
and said inner cover layer having a thickness from about 0.100 to about 0.010 inches; and	"It is found that the inner layer of hard, high flexural modulus resinous material such as SURLYN resin type 1605, is preferably of a thickness in a range of 0.020 inches and 0.070 inches." (Nesbitt, col. 3, ll. 19-23.)
a dimpled outer cover layer disposed over said spherical intermediate ball to form a multi-layer golf ball,	"An outer layer, ply, lamination or cover 16 of comparatively soft, low flexural modulus resinous material ... is then re-molded onto the inner ply or layer 14 ...." (Nesbitt, col. 2, ll. 43-47). "[T]he outer layer or cover 16 being of dimpled configuration...." (Nesbitt, col. 2, lines 48-49 and Figure 2.)
said outer cover having a Shore D hardness of about 64 or less,	<b>Nesbitt</b> : "Reference is made to the application Ser. No. 155,658 of Robert P. Molitor issued into U.S. Pat. No. 4,274,637 which describes a number of foamable compositions of a character which may be employed for ... layers ... 16 for the golf ball of this invention." (Nesbitt, col. 3, ll. 54-60). <b>Molitor '637</b> : Teaches the use of ESTANE 58133 in Examples 16 and 17. (Molitor '637, col. 18, ll. 32-60) See below why this cover material has inherently a Shore D hardness of 55.
said outer cover layer comprising a polyurethane,	<b>Nesbitt</b> : "Reference is made to the application Ser. No. 155,658 of Robert P. Molitor issued into U.S. Pat. No. 4,274,637 which describes a number of foamable compositions of a character which may be employed for ... layers ... 16 for the golf ball of this

Application/Control Number:  
95/000,123  
Art Unit: 3993

Page 106

	invention.” (Nesbitt, col. 3, ll. 54-60). <b>Molitor ‘637:</b> See TABLE 10 which teaches ESTANE 58133 is a thermoplastic polyurethane, thus is a polyurethane based material. Moreover, Molitor ‘637 teaches the cover materials include “polyurethanes such as are prepared from polyols and organic polyisocyanates”. (Molitor ‘637, col. 5, ll. 39-41; col. 18, ll. 32-60 (Examples 16 and 18)).
said outer cover layer having a modulus in a range of about 1,000 to about 30,000 psi, and	<b>Exhibit J:</b> Estane 58133 Product Information Sheet: Estane 58133 has a modulus of 25,000 psi.
said outer cover layer having a thickness of from about 0.010 to about 0.070 inches.	“The thickness of the outer layer or cover 16 of soft, low flexural modulus resin such as SURLYN type 1855, may be in the range of 0.020 inches and 0.100 inches.” (Nesbitt, col. 3, ll. 22-25).

As mentioned above, Nesbitt incorporates by reference Molitor ‘637 as describing an number of compositions suitable for the inner cover layer 14. Of particular interest in this case are Examples 1-7 within Molitor ‘637. Examples 1-7 use a ratio of SURLYN 1605 and SURLYN 1557. The use of SURLYN grades for golf ball covers is also disclosed in U.S. Pat. No. 4,690,981. The preferred composition in the ‘981 Patent has “from about 5[%] to about 15% by weight of unsaturated carboxylic acid.” ‘981 Pat., col. 3, ll. 59-60. Those of ordinary skill in the art understand that SURLYN 1605 has been “redesignated” as SURLYN 8940 and SURLYN 1557 has been “redesignated” as SURLYN 9650, see e.g. U.S. Pat. No. 4,679,795, col. 6, ll. 10-15 and U.S. Pat. No. 5,150,906, col. 4, ll. 66. Furthermore, the Patent Owner in the Sullivan ‘873 Patent admitted that SURLYN 1605 is now designated as 8940 and was used in Nesbitt’s first (inner) layer and is a sodium ion based low acid “(less than or equal to 15 weight percent methacrylic acid) ionomer resin having a flexural modulus of about 51,000 psi.” See ‘873 Patent, col. 2, ll. 43-50. Moreover, as shown in the “Properties Grid for Selected Industrial Grades of SURLYN” SURLYN 9650’s ordinate compared to the other grades of SURLYN is toward the “Low % Acid” side of the graph. Thus, based on this evidence, Nesbitt referencing

Application/Control Number:  
95/000,123  
Art Unit: 3993

Page 107

Molitor '637 inherently teaches using as an inner layer at least one ionomer resin having no more than 16% by weight of alpha, beta-unsaturated carboxylic acid. Moreover, as stated above, it has been identified that one resin in Nesbitt has a flexural modulus of 51,000 psi. This teaching of flexural modulus falls within the range claimed (15,000 psi to 70,000 psi).

Exhibit J is a product information sheet for Estane 58133 a material that is taught to be used as an outer layer. Exhibit J teaches that Estane 58133 has a flexural modulus of 25,000 psi.

This rejection of claim 5 based on Nesbitt incorporating by reference Molitor '637 was proposed by the third party requester in the request for reexamination and is being adopted essentially as proposed in the request.

#### Ground 29: Patent Owner's Argument

Patent Owner does not argue this rejection.

#### Ground 29: Third Party Requester's Comments

Third Party Requester's arguments for this claim are the same as given *supra* at "Ground 1: Third Party Requester's Comments."

#### Ground 29: Examiner's Response to the Argument and Comments

Upon review, the Examiner agrees with the arguments of the Third Party Requester and adopts this suggested rejection. See "Ground 1: Examiner's Response to the Argument and Comments," *supra*.



Application/Control Number:  
95/000,123  
Art Unit: 3993

Page 108

**Proposed third party requester rejection: Ground #30**

The requester submits on pages 50 through 54 that claim 5 is unpatentable under 35 U.S.C. § 103(a) as being obvious over Nesbitt, U.S. Pat. No. 4,431,193, in view of Molitor et al., U.S. Pat. No. 4,274,637, (Molitor '637).

Claim 5 is rejected under 35 U.S.C. 103(a) as being unpatentable over Nesbitt in view of Molitor '637, as evidenced by Exhibit J.

Below is a claim chart identifying the claim limitations and which reference Nesbitt or Molitor '637 discloses, teaches or suggests the claim limitations.

Claim 5	Nesbitt (primary) with Molitor '637 (teaching)
A multi-layer golf ball comprising:	"The disclose embraces a golf ball and method of making same...." (Nesbitt, Abstract; FIGS 1 & 2)
a spherical core;	"Referring to the drawings in detail there is illustrated a golf ball 10 which comprises a solid center or core formed as a solid body of resilient polymeric material or rubber-like material in the shape of a sphere." (Nesbitt, col. 2, ll. 31-34).
an inner cover layer disposed over said spherical core to form a spherical intermediate ball,	"Disposed on the spherical center or core 12 is a <b>first layer, lamination, ply or inner cover 14</b> of molded hard, highly flexural modulus resinous material...." (Nesbitt, col. 2, ll. 34-37).
said inner cover having Shore D hardness of at least 60,	"[I]nner cover 14 of molded hard, highly flexural modulus resinous material such as type 1605 SURLYN marketed by E.I. DuPont de Nemours." (Nesbitt, col. 2, ll. 36-38). "[A] center or core 12 ... is molded with a layer of hard, high modulus SURLYN resin, such as SURLYN type 1605..." (Nesbitt, col. 3, ll. 27-29). See below with respect to the Shore D limitation
said inner cover layer comprising an ionomeric resin having no more than 16% by weight of an alpha, beta-unsaturated carboxylic acid and	"Reference is made to the application Ser. No. 155,658, of Robert P. Molitor issued into U.S. Pat. No. 4,274,637 which describes a number of foamable compositions of a character which may be employed for one or both layers 14 [inner] and 16 [outer] for the golf ball of this invention." (Nesbitt, col. 3, ll. 56-61). <b>Molitor '637</b> : Molitor teaches, in examples 1-7, cover materials including a blend of two ionomer resins: SURLYN 1605 and SURLYN 1557. (Molitor '637, col. 14, l. 22 to col. 16, l. 34). See below with respect to % by weight limitation.
having a modulus of from about 15,000 to about 70,000 psi,	see below
and said inner cover layer having a thickness from about 0.100 to about 0.010	"It is found that the inner layer of hard, high flexural modulus resinous material such as SURLYN resin type 1605, is preferably of

Application/Control Number:  
95/000,123  
Art Unit: 3993

Page 109

inches; and	a thickness in a range of 0.020 inches and 0.070 inches.” (Nesbitt, col. 3, ll. 19-23.)
a dimpled outer cover layer disposed over said spherical intermediate ball to form a multi-layer golf ball,	“An outer layer, ply, lamination or cover 16 of comparatively soft, low flexural modulus resinous material ... is then re-molded onto the inner ply or layer 14 ....” (Nesbitt, col. 2, ll. 43-47.) “[T]he outer layer or cover 16 being of dimpled configuration....” (Nesbitt, col. 2, lines 48-49 and Figure 2.)
said outer cover having a Shore D hardness of about 64 or less,	<b>Nesbitt:</b> “Reference is made to the application Ser. No. 155,658 of Robert P. Molitor issued into U.S. Pat. No. 4,274,637 which describes a number of foamable compositions of a character which may be employed for ... layers ... 16 for the golf ball of this invention.” (Nesbitt, col. 3, ll. 54-60). <b>Molitor ‘637:</b> Teaches the use of ESTANE 58133 in Examples 16 and 17. (Molitor ‘637, col. 18, ll. 32-60) See below why this cover material has inherently a Shore D hardness of 55.
said outer cover layer comprising a polyurethane,	<b>Nesbitt:</b> “Reference is made to the application Ser. No. 155,658 of Robert P. Molitor issued into U.S. Pat. No. 4,274,637 which describes a number of foamable compositions of a character which may be employed for ... layers ... 16 for the golf ball of this invention.” (Nesbitt, col. 3, ll. 54-60). <b>Molitor ‘637:</b> See TABLE 10 which teaches ESTANE 58133 is a thermoplastic polyurethane, thus is a polyurethane based material. Moreover, Molitor ‘637 teaches the cover materials include “polyurethanes such as are prepared from polyols and organic polyisocyanates”. (Molitor ‘637, col. 5, ll. 39-41; col. 18, ll. 32-60 (Examples 16 and 18)).
said outer cover layer having a modulus in a range of about 1,000 to about 30,000 psi, and	<b>Exhibit J:</b> Estane 58133 Product Information Sheet: Estane 58133 has a modulus of 25,000 psi.
said outer cover layer having a thickness of from about 0.010 to about 0.070 inches.	“The thickness of the outer layer or cover 16 of soft, low flexural modulus resin such as SURLYN type 1855, may be in the range of 0.020 inches and 0.100 inches.” (Nesbitt, col. 3, ll. 22-25).

As mentioned above, Nesbitt references Molitor ‘637 as describing an number of compositions suitable for the inner cover layer 14. Of particular interest in this case are Examples 1-7 within Molitor ‘637. Examples 1-7 use a ratio of SURLYN 1605 and SURLYN 1557. The use of SURLYN grades for golf ball covers is also disclosed in U.S. Pat. No. 4,690,981. The preferred composition in the ‘981 Patent has “from about 5[%] to about 15% by weight of unsaturated carboxylic acid.” ‘981 Pat., col. 3, ll. 59-60. Those of ordinary skill in the art understand that SURLYN 1605 has been “redesignated” as SURLYN 8940 and SURLYN

Application/Control Number:  
95/000,123  
Art Unit: 3993

Page 110

1557 has been “redesignated” as SURLYN 9650, see e.g. U.S. Pat. No. 4,679,795, col. 6, ll. 10-15 and U.S. Pat. No. 5,150,906, col. 4, ll. 66. Furthermore, the Patent Owner in the Sullivan ‘873 Patent admitted that SURLYN 1605 is now designated as 8940 and was used in Nesbitt’s first (inner) layer and is a sodium ion based low acid “(less than or equal to 15 weight percent methacrylic acid) ionomer resin having a flexural modulus of about 51,000 psi.” See ‘873 Patent, col. 2, ll. 43-50. Moreover, as shown in the “Properties Grid for Selected Industrial Grades of SURLYN” SURLYN 9650’s ordinate compared to the other grades of SURLYN is toward the “Low % Acid” side of the graph. Thus, based on this evidence, Nesbitt referencing Molitor ‘637 inherently teaches using as an inner layer at least one ionomer resin having no more than 16% by weight of alpha, beta-unsaturated carboxylic acid. Moreover, as stated above, it has been identified that one resin in Nesbitt has a flexural modulus of 51,000 psi. This teaching of flexural modulus falls within the range claimed (15,000 psi to 70,000 psi).

Exhibit J is a product information sheet for Estane 58133 a material that is taught to be used as an outer layer. Exhibit J teaches that Estane 58133 has a flexural modulus of 25,000 psi.

This rejection of claim 5 based on Nesbitt in view of Molitor ‘637 was proposed by the third party requester in the request for reexamination and is being adopted essentially as proposed in the request.

#### Ground 30: Patent Owner’s Argument

Patent Owner does not specifically argue this rejection. The arguments are the same as those at “Ground 2: Patent Owner’s Argument,” *supra*.

Application/Control Number:  
95/000,123  
Art Unit: 3993

Page 111

Ground 30: Third Party Requester's Comments

Third Party Requester does not specifically counter argue this rejection. The counter arguments are the same as those at "Ground 2: Third Party Requester's Comments," *supra*.

Ground 30: Examiner's Response to the Argument and Comments

Examiner agrees with the general comments of the Third Party Requester, and the rejection of claim 3 under 35 USC 103(a) as being obvious by Nesbitt in view of Molitor '637 is maintained. See "Ground 2: Examiner's Response to the Argument and Comments," *supra*.

**Proposed third party requester rejection: Ground #31**

The requester submits on pages 54 through 56 that claim 5 under 35 U.S.C. § 103(a) as being obvious over Nesbitt, U.S. Pat. No. 4,431,193, (Nesbitt) in view of Wu, U.S. Patent No. 5,334,673, (Wu).

Claim 5 is rejected under 35 U.S.C. 103(a) as being unpatentable over Nesbitt mentioning Molitor '637 in view of Wu, as evidenced by Exhibit C and Decl. of Dalton at para. 7.

Below is a claim chart identifying the claim limitations and which reference Nesbitt or Wu discloses, teaches or suggests the claim limitations. As reported in the Order granting reexamination, it needs to be correctly stated on the record that Nesbitt and Molitor '637 which is mentioned in Nesbitt teach the use of particular polyurethane materials for the use as an outer layer.

Application/Control Number:  
95/000,123  
Art Unit: 3993

Page 112

Claim 5	Nesbitt (primary) mentioning Molitor '637 with Wu (teaching)
A multi-layer golf ball comprising:	"The disclose embraces a golf ball and method of making same...." (Nesbitt, Abstract; FIGS 1 & 2)
a spherical core;	"Referring to the drawings in detail there is illustrated a golf ball 10 which comprises a solid center or <b>core</b> formed as a solid body of resilient polymeric material or rubber-like material in the shape of a <b>sphere</b> ." (Nesbitt, col. 2, ll. 31-34).
an inner cover layer disposed over said spherical core to form a spherical intermediate ball,	"Disposed on the spherical center or core 12 is a <b>first layer, lamination, ply or inner cover 14</b> of molded hard, highly flexural modulus resinous material...." (Nesbitt, col. 2, ll. 34-37).
said inner cover having Shore D hardness of at least 60,	"[I]nner cover 14 of molded hard, highly flexural modulus resinous material such as type 1605 SURLYN marketed by E.I. DuPont de Nemours." (Nesbitt, col. 2, ll. 36-38). "[A] center or core 12 ... is molded with a layer of hard, high modulus SURLYN resin, such as SURLYN type 1605..." (Nesbitt, col. 3, ll. 27-29). See below with respect to the Shore D limitation.
said inner cover layer comprising an ionomeric resin having no more than 16% by weight of an alpha, beta-unsaturated carboxylic acid and	"Reference is made to the application Ser. No. 155,658, of Robert P. Molitor issued into U.S. Pat. No. 4,274,637 which describes a number of foamable compositions of a character which may be employed for one or both layers 14 [inner] and 16 [outer] for the golf ball of this invention." (Nesbitt, col. 3, ll. 56-61). <b>Molitor '637</b> : Molitor teaches, in examples 1-7, cover materials including a blend of two ionomer resins: SURLYN 1605 and SURLYN 1557. (Molitor '637, col. 14, l. 22 to col. 16, l. 34). See below with respect to the % by weight limitation.
having a modulus of from about 15,000 to about 70,000 psi,	see below
and said inner cover layer having a thickness from about 0.100 to about 0.010 inches; and	"It is found that the inner layer of hard, high flexural modulus resinous material such as SURLYN resin type 1605, is preferably of a thickness in a range of 0.020 inches and 0.070 inches." (Nesbitt, col. 3, ll. 19-23.)
a dimpled outer cover layer disposed over said spherical intermediate ball to form a multi-layer golf ball,	"An outer layer, ply, lamination or cover 16 of comparatively soft, low flexural modulus resinous material ... is then re-molded onto the inner ply or layer 14 ...." (Nesbitt, col. 2, ll. 43-47). "[T]he outer layer or cover 16 being of dimpled configuration...." (Nesbitt, col. 2, lines 48-49 and Figure 2.)
said outer cover having a Shore D hardness of about 64 or less,	<b>Nesbitt</b> : "Reference is made to the application Ser. No. 155,658 of Robert P. Molitor issued into U.S. Pat. No. 4,274,637 which describes a number of foamable compositions of a character which may be employed for ... layers ... 16 for the golf ball of this invention." (Nesbitt, col. 3, ll. 54-60). <b>Molitor '637</b> : Teaches the use of ESTANE 58133 in Examples 16 and 17. (Molitor '637, col. 18, ll. 32-60) See below why this cover material has inherently a Shore D hardness of 55.
said outer cover layer comprising a polyurethane,	<b>Molitor '637</b> : See TABLE 10 which teaches ESTANE 58133 is a thermoplastic polyurethane, thus is a polyurethane based material. Moreover, Molitor '637 teaches the cover materials include "polyurethanes such as are prepared from polyols and organic

Application/Control Number:  
95/000,123  
Art Unit: 3993

Page 113

	polyisocyanates". (Molitor '637, col. 5, ll. 39-41; col. 18, ll. 32-60 (Examples 16 and 18)). <u>Wu</u> : "With polyurethanes made in accordance with the present invention, the degree of cure which has taken place is dependent upon, inter alia, the time, temperature, type of curative, and amount of catalyst used. It has been found that the degree of cure of the cover composition is directly proportional to the hardness of the composition. A hardness about 10D to 30D, Shore D hardness for the cover stock at the end of the intermediate curing step (i.e. just prior to the final molding step) has been found to be suitable for the present invention. More preferred is a hardness of about 12D to 20D." (Wu, col. 6, ll. 27-38).
said outer cover layer having a modulus in a range of about 1,000 to about 30,000 psi, and	see below
said outer cover layer having a thickness of from about 0.010 to about 0.070 inches.	"The thickness of the outer layer or cover 16 of soft, low flexural modulus resin such as SURLYN type 1855, may be in the range of 0.020 inches and 0.100 inches." (Nesbitt, col. 3, ll. 22-25).

As mentioned above, Nesbitt references Molitor '637 as describing an number of compositions suitable for the inner cover layer 14. Of particular interest in this case are Examples 1-7 within Molitor '637. Examples 1-7 use a ratio of SURLYN 1605 and SURLYN 1557. The use of SURLYN grades for golf ball covers is also disclosed in U.S. Pat. No. 4,690,981. The preferred composition in the '981 Patent has "from about 5[%] to about 15% by weight of unsaturated carboxylic acid." '981 Pat., col. 3, ll. 59-60. Those of ordinary skill in the art understand that SURLYN 1605 has been "redesignated" as SURLYN 8940 and SURLYN 1557 has been "redesignated" as SURLYN 9650, see e.g. U.S. Pat. No. 4,679,795, col. 6, ll. 10-15 and U.S. Pat. No. 5,150,906, col. 4, ll. 66. Furthermore, the Patent Owner in the Sullivan '873 Patent admitted that SURLYN 1605 is now designated as 8940 and was used in Nesbitt's first (inner) layer and is a sodium ion based low acid "(less than or equal to 15 weight percent methacrylic acid) ionomer resin having a flexural modulus of about 51,000 psi." See '873 Patent, col. 2, ll. 43-50. Moreover, as shown in the "Properties Grid for Selected Industrial

Application/Control Number:  
95/000,123  
Art Unit: 3993

Page 114

Grades of SURLYN” SURLYN 9650’s ordinate compared to the other grades of SURLYN is toward the “Low % Acid” side of the graph. Thus, based on this evidence, Nesbitt referencing Molitor ‘637 inherently teaches using as an inner layer at least one ionomer resin having no more than 16% by weight of alpha, beta-unsaturated carboxylic acid. Moreover, as stated above, it has been identified that one resin in Nesbitt has a flexural modulus of 51,000 psi. This teaching of flexural modulus falls within the range claimed (15,000 psi to 70,000 psi).

As mentioned above, Nesbitt mentioning Molitor ‘637 teaches the use of particular polyurethane materials for the use as an outer layer. Wu teaches that polyurethane was being used as the outer layer of golf ball *circa* 1993. Wu further teaches in col. 1:36-46 that SURLYN covered golf balls lack the “click” and “feel” of balata which golfers have become accustomed to such sensations and polyurethane covered golf balls can be made to have a similar “click” and “feel” of balata. Wu also at least teaches that polyurethanes made according to its invention will have Shore D hardness directly proportional to the degree of cure of the cover; and this Shore D hardness ranges from 10 to 30, preferably 12 to 20 on the Shore D scale, see col. 6:26-38. This teaching of Shore D hardness is directed to an intermediate curing step product prior to the final molding process to finish the golf ball. Exhibit C demonstrates the actual finished golf ball product having the cover layer that Wu teaches within its disclosure. Exhibit C teaches that the golf ball taught therein is covered by the following patents: 4,783,078; 4,846,910; 4,858,923; 4,904,320; 4,915,390; 5,007,594; 5,080,367; 5,133,509; **5,334,673**; and D339,074. The ‘673 Patent teaches the cover sock of the Exhibit C finished golf ball. Exhibit C teaches that the golf ball taught therein has a cover material made from an “elastomer”, having a thickness of .050”, and 58 Shore D hardness. All three properties are within the range of mechanical properties of



Application/Control Number:  
95/000,123  
Art Unit: 3993

Page 115

the claim invention (polyurethane is an elastomer, cover layer thickness ranges from 0.010 to 0.070 inches and the Shore D hardness is less than 64). Claim 5 also claims the flexural modulus of the material be within the range of 1,000 psi to 30,000 psi. The Declaration of Dalton declares that Example 1 in Wu is about 23,000 psi. Because it has been admitted by the inventor of the Sullivan '893 patent that the particular chemical properties of the materials (the chemical composition) used in the construction of a golf ball lack criticality as compared to the mechanical properties (the Shore D hardness, flexural modulus, layer thickness) of those compounds used for constructing the different layers (Exhibit G at 334), one of ordinary skill in the art at the time the invention was made would find it obvious to incorporate the teachings of Wu which inherently include the teachings of Shore hardness for the fully cured cover layer as taught in Exhibit C as obvious equivalent materials in order to achieve the same end result of providing a cover layer that has the same "click" and "feel" of a balata cover which the extra durability of an elastomeric material.

This rejection of claim 5 based on Nesbitt mentioning Molitor '637 in view of Wu as evidenced by Exhibit C and Decl. of Dalton, para. 7 was proposed by the third party requester in the request for reexamination and is being adopted essentially as proposed in the request.

#### Ground 31: Patent Owner's Argument

Patent Owner does not specifically argue this rejection, except that the Dalton Declaration is not competent evidence to disclose Wu's cover's flex modulus because of Dalton's employment with the Requester (Patent Owner's Argument at middle of page 21). The other arguments are the same as those at "Ground 3: Patent Owner's Argument," *supra*.

Application/Control Number:  
95/000,123  
Art Unit: 3993

Page 116

#### Ground 31: Third Party Requester's Comments

Third Party Requester does not specifically counter argue this rejection. The counter arguments are the same as those at "Ground 3: Third Party Requester's Comments," *supra*.

#### Ground 31: Examiner's Response to the Argument and Comments

Examiner agrees with the general comments of the Third Party Requester, and the rejection of claim 5 under 35 USC 103(a) as being obvious by Nesbitt in view of Wu is maintained. See "Ground 3: Examiner's Response to the Argument and Comments," *supra*. As to the Patent Owner's argument on the use of Dalton Declaration, the Examiner accepts the declaration as competent evidence because it is a sworn declaration. As such, the Examiner will not probe into the Declarant's veracity.

#### **Proposed third party requester rejection: Ground #32**

The requester submits on pages 56 through 58 that claim 5 under 35 U.S.C. § 103(a) as being obvious over Nesbitt, U.S. Pat. No. 4,431,193, in view of Molitor et al., U.S. Pat. No. 4,674,751, (Molitor '751).

Claim 5 is rejected under 35 U.S.C. 103(a) as being unpatentable over Nesbitt mentioning Molitor '637 in view of Molitor '751, as evidenced by Exhibit J.

Below is a claim chart identifying the claim limitations and where Nesbitt discloses, teaches or suggests the claim limitations. As reported in the Order granting reexamination, it

Application/Control Number:  
95/000,123  
Art Unit: 3993

Page 117

needs to be correctly stated on the record that Nesbitt and Molitor '637 which is mentioned in

Nesbitt teach the use of particular polyurethane materials for the use as an outer layer .

Claim 5	Nesbitt (primary) mentioning Molitor '637 with Molitor '751 (teaching)
A multi-layer golf ball comprising:	"The disclose embraces a golf ball and method of making same...." (Nesbitt, Abstract; FIGS 1 & 2)
a spherical core;	"Referring to the drawings in detail there is illustrated a golf ball 10 which comprises a solid center or core formed as a solid body of resilient polymeric material or rubber-like material in the shape of a sphere." (Nesbitt, col. 2, ll. 31-34).
an inner cover layer disposed over said spherical core to form a spherical intermediate ball,	"Disposed on the spherical center or core 12 is a first layer, lamination, ply or inner cover 14 of molded hard, highly flexural modulus resinous material...." (Nesbitt, col. 2, ll. 34-37). See below with respect to the Shore D limitation.
said inner cover having Shore D hardness of at least 60,	"[I]nner cover 14 of molded hard, highly flexural modulus resinous material such as type 1605 SURLYN marketed by E.I. DuPont de Nemours." (Nesbitt, col. 2, ll. 36-38). "[A] center or core 12... is molded with a layer of hard, high modulus SURLYN resin, such as SURLYN type 1605..." (Nesbitt, col. 3, ll. 27-29). See below with respect to % by weight limitation.
said inner cover layer comprising an ionomeric resin having no more than 16% by weight of an alpha, beta-unsaturated carboxylic acid and	"Reference is made to the application Ser. No. 155,658, of Robert P. Molitor issued into U.S. Pat. No. 4,274,637 which describes a number of foamable compositions of a character which may be employed for one or both layers 14 [inner] and 16 [outer] for the golf ball of this invention." (Nesbitt, col. 3, ll. 56-61). <b>Molitor '637:</b> Molitor teaches, in examples 1-7, cover materials including a blend of two ionomer resins: SURLYN 1605 and SURLYN 1557. (Molitor '637, col. 14, l. 22 to col. 16, l. 34).
having a modulus of from about 15,000 to about 70,000 psi,	see below
and said inner cover layer having a thickness from about 0.100 to about 0.010 inches; and	"It is found that the inner layer of hard, high flexural modulus resinous material such as SURLYN resin type 1605, is preferably of a thickness in a range of 0.020 inches and 0.070 inches." (Nesbitt, col. 3, ll. 19-23.)
a dimpled outer cover layer disposed over said spherical intermediate ball to form a multi-layer golf ball,	"An outer layer, ply, lamination or cover 16 of comparatively soft, low flexural modulus resinous material ... is then re-molded onto the inner ply or layer 14 ...." (Nesbitt, col. 2, ll. 43-47.) "[T]he outer layer or cover 16 being of dimpled configuration...." (Nesbitt, col. 2, lines 48-49 and Figure 2.)
said outer cover having a Shore D hardness of about 64 or less,	<b>Nesbitt:</b> "Reference is made to the application Ser. No. 155,658 of Robert P. Molitor issued into U.S. Pat. No. 4,274,637 which describes a number of foamable compositions of a character which may be employed for ... layers ... 16 for the golf ball of this invention." (Nesbitt, col. 3, ll. 54-60). <b>Molitor '637:</b> Teaches the use of ESTANE 58133 in Examples 16 and 17. (Molitor '637, col. 18, ll. 32-60) See below why this cover material has inherently a Shore D hardness of 55.

Application/Control Number:  
95/000,123  
Art Unit: 3993

Page 118

said outer cover layer comprising a polyurethane,	<b>Nesbitt:</b> "Reference is made to the application Ser. No. 155,658 of Robert P. Molitor issued into U.S. Pat. No. 4,274,637 which describes a number of foamable compositions of a character which may be employed for ... layers ... 16 for the golf ball of this invention." (Nesbitt, col. 3, ll. 54-60). <b>Molitor '637:</b> See TABLE 10 which teaches ESTANE 58133 is a thermoplastic polyurethane, thus is a polyurethane based material. Moreover, Molitor '637 teaches the cover materials include "polyurethanes such as are prepared from polyols and organic polyisocyanates". (Molitor '637, col. 5, ll. 39-41; col. 18, ll. 32-60 (Examples 16 and 18)).
said outer cover layer having a modulus in a range of about 1,000 to about 30,000 psi, and	<b>Exhibit J:</b> Estane 58133 Product Information Sheet: Estane 58133 has a modulus of 25,000 psi.
said outer cover layer having a thickness of from about 0.010 to about 0.070 inches.	"The thickness of the outer layer or cover 16 of soft, low flexural modulus resin such as SURLYN type 1855, may be in the range of 0.020 inches and 0.100 inches." (Nesbitt, col. 3, ll. 22-25).

As shown above in the claim chart, Nesbitt mentioning Molitor '637 suggests the use of a soft outer cover layer including a polyurethane material. In an analogous golf ball, Molitor '751 teaches that:

It has now been discovered that a key to manufacturing a two-piece ball having playability properties similar to wound, balata-covered balls is to provide about an inner resilient molded core **a cover having a shore C hardness less than 85, preferably 70-80, and most preferably 72-76.** The novel cover of the golf ball of the invention is made of a composition comprising a blend of (1) **a thermoplastic urethane having a shore A hardness less than 95 and (2) an ionomer having a shore D hardness greater than 55.**

(Molitor '751, col. 2, ll.33-49 (emphasis added)).

Moreover, in explaining what constitutes a two-piece golf ball, Molitor '751 teaches that:

The phrase "two piece ball" as used herein refers primarily to balls consisting of a molded core and a cover, **but also includes balls having a separate solid layer beneath the cover as disclosed, for example, in U.S. Pat. No. 4,431,193 to Nesbitt, and other balls have non-wound cores.**

(Molitor '751, col. 3, ll. 7-12 (emphasis added)).

As stated above, Molitor '751 teaches the cover of the golf ball has a Shore C hardness of less than 85, preferably 70-80, most preferably 72-76. As described in Molitor '751's TABLE bridging columns 7 and 8, Sample 8 constitutes one of the preferred embodiments and its cover

Application/Control Number:  
95/000,123  
Art Unit: 3993

Page 119

is taught to have a Shore C hardness of 73. Patent Owner has admitted that a Shore C hardness of 73 is equal to a Shore D hardness of 47, see U.S. Pat. No. 6,905,648, Table 19 (Exhibit L). Thus, a cover having a Shore C hardness of between 72 and 76 will inherently have a Shore D hardness of less than 64.

How one of ordinary skill in the art would discover this inherent mechanical property of Shore D hardness for the polyurethane material used in Molitor '751 is by "translating" a Shore C value to a Shore D value for the polyurethane material. How one of ordinary skill in the art "translates" a Shore C value to a Shore D value is by taking the known Shore hardness values with a given range, in this instance Shore C, for given materials, in this instance polyurethane golf ball covers materials, and taking corresponding measurements with a different set of Shore gauges, in this instance Shore D (but could also be Shore A). A resulting trendline plot occurs from performing this procedure wherein the range of known Shore C values are the abscissa and the range of measured Shore D values are the ordinate. Then, said plot can be use to read equivalent Shore D value for any given Shore C value within the known range of Shore C. This is how one of ordinary skill in the art can know the equivalent Shore D or even Shore A hardness value for any given Shore C hardness value.

As stated in the request on page 58

It would have been obvious to one of ordinary skill in the art at the time of the invention to substitute the soft outer cover layer of Nesbitt and replace it with an outer cover layer made of the soft polyurethane material taught by Molitor '751 to provide a golf ball that includes "playability properties as good or better than balata-covered wound balls but are significantly more durable," and "have better wood playability properties than conventional two-piece balls, and permit experienced golfers to apply spin so as to fade or draw a shot" while having improved puttability. (Molitor '751, col. 2, ll. 61-68)

Application/Control Number:  
95/000,123  
Art Unit: 3993

Page 120

As mentioned above, Nesbitt references Molitor '637 as describing an number of compositions suitable for the inner cover layer 14. Of particular interest in this case are Examples 1-7 within Molitor '637. Examples 1-7 use a ratio of SURLYN 1605 and SURLYN 1557. The use of SURLYN grades for golf ball covers is also disclosed in U.S. Pat. No. 4,690,981. The preferred composition in the '981 Patent has "from about 5[%] to about 15% by weight of unsaturated carboxylic acid." '981 Pat., col. 3, ll. 59-60. Those of ordinary skill in the art understand that SURLYN 1605 has been "redesignated" as SURLYN 8940 and SURLYN 1557 has been "redesignated" as SURLYN 9650, see e.g. U.S. Pat. No. 4,679,795, col. 6, ll. 10-15 and U.S. Pat. No. 5,150,906, col. 4, ll. 66. Furthermore, the Patent Owner in the Sullivan '873 Patent admitted that SURLYN 1605 is now designated as 8940 and was used in Nesbitt's first (inner) layer and is a sodium ion based low acid "(less than or equal to 15 weight percent methacrylic acid) ionomer resin having a flexural modulus of about 51,000 psi." See '873 Patent, col. 2, ll. 43-50. Moreover, as shown in the "Properties Grid for Selected Industrial Grades of SURLYN" SURLYN 9650's ordinate compared to the other grades of SURLYN is toward the "Low % Acid" side of the graph. Thus, based on this evidence, Nesbitt referencing Molitor '637 inherently teaches using as an inner layer at least one ionomer resin having no more than 16% by weight of alpha, beta-unsaturated carboxylic acid. Moreover, as stated above, it has been identified that one resin in Nesbitt has a flexural modulus of 51,000 psi. This teaching of flexural modulus falls within the range claimed (15,000 psi to 70,000 psi).

This rejection of claim 5 based on Nesbitt mentioning Molitor '637 in view of Molitor '751 as evidenced by Exhibit J was proposed by the third party requester in the request for reexamination and is being adopted essentially as proposed in the request.

Application/Control Number:  
95/000,123  
Art Unit: 3993

Page 121

#### Ground 32: Patent Owner's Argument

Patent Owner does not specifically argue this rejection. The arguments are the same as those at "Ground 4: Patent Owner's Argument," *supra*.

#### Ground 32: Third Party Requester's Comments

Third Party Requester does not specifically counter argue this rejection. The counter arguments are the same as those at "Ground 4: Third Party Requester's Comments," *supra*.

#### Ground 32: Examiner's Response to the Argument and Comments

Examiner agrees with the general comments of the Third Party Requester, and the rejection of claim 5 under 35 USC 103(a) as being obvious by Nesbitt in view of Molitor '637 is maintained. See "Ground 4: Examiner's Response to the Argument and Comments," *supra*.

#### **Proposed third party requester rejection: Ground #33**

The requester submits on pages 58 through 62 that claim 5 under 35 U.S.C. § 103(a) as being obvious over Proudfit, U.S. Pat. No. 5,314,187 (Proudfit) in view of Molitor, U.S. Pat. No. 4,274,637 (Molitor '637.)

Claim 5 is rejected under 35 U.S.C. § 103(a) as being unpatentable over Proudfit in view of Molitor '637.



Application/Control Number:  
95/000,123  
Art Unit: 3993

Page 122

Below is a claim chart identifying the claim limitations and where Proudfit discloses, teaches or suggests certain claim limitations.

Claim 5	Proudfit								
A multi-layer golf ball comprising:	"This invention relates to golf balls, and more particularly, to a golf ball having a two-layer cover." (Proudfit, col. 1, ll. 11-12)								
a spherical core;	<p>"FIG. 1 illustrates a two-piece golf ball 10 which includes a solid <b>core 11</b> and a cover 12 which comprises a relatively hard inner layer 13 of one or more ionomer resins and a relatively soft outer layer 14 of polymeric material." (Proudfit, col. 7, ll. 21-24; Figs 1 and 2)</p> <p>"Two specific solid core compositions used with the new two-layer cover had the composition describe in Table 1. One core was used in a golf ball which was designated as a 90 compression ball, and the other core was used in a golf ball which was designated as a 100 compression ball." (Proudfit, col. 7, ll. 51-55)</p> <p>See figure 1 of Proudfit for the spherical shape of the core.</p>								
an inner cover layer disposed over said spherical core to form a spherical intermediate ball,	<p>"FIG. 1 illustrates a two-piece golf ball 10 which includes a solid core 11 and a <b>cover 12 which comprises a relatively hard inner layer 13 of one or more ionomer resins</b> and a relatively soft outer layer 14 of polymeric material." (Proudfit, col. 7, ll. 21-24)</p> <p>"The inner layer can be molded in one of two methods: 1. Injection molded over the core in a manner which is conventionally used to injection mold ionomers over a solid core. 2. Injection mold halfshells, place halfshells over a solid core, compression mold the inner cover over the core." (Proudfit, col. 8, lines 32-38.)</p>								
said inner cover having Shore D hardness of at least 60,	<p>"The composition of the inner cover layer is described in Table 6."</p> <p style="text-align: center;"><b>TABLE 6</b></p> <table border="1"> <thead> <tr> <th colspan="2">Composition of Inner Layer of Cover (Parts by Weight)</th></tr> <tr> <th>Ionomer Type</th><th>Blend Ratio</th></tr> </thead> <tbody> <tr> <td>Sodium-Suriyn 8940</td><td>75%</td></tr> <tr> <td>Zinc-Suriyn 9910</td><td>25%</td></tr> </tbody> </table> <p>(Proudfit, col. 8, ll. 22-30) See below with respect to the Shore D limitation.</p>	Composition of Inner Layer of Cover (Parts by Weight)		Ionomer Type	Blend Ratio	Sodium-Suriyn 8940	75%	Zinc-Suriyn 9910	25%
Composition of Inner Layer of Cover (Parts by Weight)									
Ionomer Type	Blend Ratio								
Sodium-Suriyn 8940	75%								
Zinc-Suriyn 9910	25%								
said inner cover layer comprising an	"The composition of the inner cover layer is described in Table								

Application/Control Number:  
95/000,123  
Art Unit: 3993

Page 123

ionomeric resin having no more than 16% by weight of alpha, beta-unsaturated carboxylic acid and	<p>6."</p> <p style="text-align: center;"><b>TABLE 6</b></p> <hr/> <p style="text-align: center;">Composition of Inner Layer of Cover (Parts by Weight)</p> <hr/> <table style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th style="text-align: left; border-bottom: 1px solid black;">Ionomer Type</th><th style="text-align: left; border-bottom: 1px solid black;">Blend Ratio</th></tr> </thead> <tbody> <tr> <td>Sodium- Surlin 8940</td><td>75%</td></tr> <tr> <td>Zinc- Surlin 9910</td><td>25%</td></tr> </tbody> </table> <hr/> <p>(Proudfit, col. 8, ll. 22-30) See below with respect to the % by weight limitation.</p>	Ionomer Type	Blend Ratio	Sodium- Surlin 8940	75%	Zinc- Surlin 9910	25%
Ionomer Type	Blend Ratio						
Sodium- Surlin 8940	75%						
Zinc- Surlin 9910	25%						
having a modulus of from about 15,000 to about 70,000 psi; and	<p>"The standard resins have a flexural modulus in the range of about 30,000 to about 55,000 psi as measured by ATM Method D-790. (Standard resins are referred to as "hard SURLYNS" in U.S. Patent No. 4,884,814." (Proudfit, col. 5, l. 66 - col. 6, l. 1.)</p> <p>"Specific standard SURLYN resins which can be used in the inner layer include 8940 (sodium), 9910 (zinc)...." (Proudfit, col. 6, ll. 6-7.)</p> <p>"The composition of the inner cover layer is described in Table 6."</p> <p style="text-align: center;"><b>TABLE 6</b></p> <hr/> <p style="text-align: center;">Composition of Inner Layer of Cover (Parts by Weight)</p> <hr/> <table style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th style="text-align: left; border-bottom: 1px solid black;">Ionomer Type</th><th style="text-align: left; border-bottom: 1px solid black;">Blend Ratio</th></tr> </thead> <tbody> <tr> <td>Sodium- Surlin 8940</td><td>75%</td></tr> <tr> <td>Zinc- Surlin 9910</td><td>25%</td></tr> </tbody> </table> <hr/> <p>(Proudfit, col. 8, ll. 22-30)</p>	Ionomer Type	Blend Ratio	Sodium- Surlin 8940	75%	Zinc- Surlin 9910	25%
Ionomer Type	Blend Ratio						
Sodium- Surlin 8940	75%						
Zinc- Surlin 9910	25%						
and said inner cover layer having a thickness from about 0.100 to about 0.010 inches	<p>"the thickness of the inner layer can be within the range of about 0.0250 to 0.2875 inches to provide a total diameter of the inner layer and core within the range of about 1.550 to 1.590 inch." (Proudfit, col. 7, ll. 37-40.)</p> <p>"The preferred dimensions are ... inner layer thickness of 0.037 inch ...." (Proudfit, col. 7, ll.43-44.)</p>						
a dimpled outer cover layer disposed over said spherical intermediate ball to form a multi-layer golf ball,	<p>see Figure 1</p>						
said outer cover having a Shore D hardness of about 64 or less	<p>"... an <b>outer layer</b> of soft material such as balata or a <b>blend of balata and other elastomers</b>." (Proudfit, col. 5, ll. 15-17)</p> <p>This material inherently has a Shore D hardness of less than 64, see the reasoning below.</p>						
said outer cover layer comprising a polyurethane,	<p>"... an <b>outer layer</b> of soft material such as balata or a <b>blend of balata and other elastomers</b>." (Proudfit, col. 5, ll. 15-17)</p>						
said outer cover layer having a modulus	<p>"The relatively soft elastomeric material of the outer layer has a</p>						

Application/Control Number:  
95/000,123  
Art Unit: 3993

Page 124

in a range of about 1,000 to about 30,000 psi	flexural modulus in the range of about 20,000 to 25,000 psi, and in one specific embodiment had a flexural modulus of from 22,165 to 22,379 psi. (Proudfit, col. 6, ll. 28-31.)
said outer cover layer having a thickness of 0.010 to 0.070 inches,	"The thickness of the outer layer can be within the range of about 0.0450 to 0.0650 inch to provide a total ball diameter of 1.680 inch. The preferred dimensions are ... an outer layer thickness of 0.0525 inch...." (Proudfit, col. 7, ll. 40-46)

As shown above Proudfit discloses, teaches and suggests a three-piece golf ball (core, inner layer and outer layer) with the layers within the range of claimed thicknesses each layer made from a material having the mechanical properties substantially similar to the claimed mechanical properties. What Proudfit lacks in clearly disclosing are the particular mechanical and chemical properties of the claimed invention. However, Proudfit either incorporates by reference these mechanical and chemical properties and/or the materials used within the Proudfit golf ball inherently have these mechanical and chemical properties. For instance, Proudfit incorporates by reference U.S. Pat. No. 4,690,981 in the background of this invention. (Proudfit, col. 1, ll.39-43). The '981 patent discloses the preferably amount of unsaturated carboxylic acid is "from about 5[%] to about 15% by weight." ('981 Pat, col. 3, ll. 59-60). If Proudfit discloses using blends SURLYN the chemical for making the inner cover and the '981 Patent is the formulation for ionomer known in the art as SURLYN, then inherently grades of SURLYN such as SURLYN 8940 and SURLYN 9910 would be low acid ionomer resins containing no more than 16% by weight of an alpha, beta-unsaturated carboxylic acid. As taught from Exhibit I, SURLYN 8940 has a Shore D hardness of 65; SURLYN 9910 has a Shore D hardness of 64, see Exhibit I. Therefore, this cover blend inherently has a hardness of 60 or more. Proudfit

Application/Control Number:  
95/000,123  
Art Unit: 3993

Page 125

discloses the outer layer being a blend of balata. An example of the blend is disclosed in Table 7 reproduced below.

TABLE 7	
Composition of Outer Layer (Parts by Weight)	
Trans Polyisoprene (TP-301)	60.00
Polybutadiene	40.00
Zinc Oxide	1.00
Titanium Dioxide	17.00
Ultramarine Blue color	.50
Zinc DiAcrylate	35.00
Peroxide (Varox 230 XL)	2.50
Total	160.00

Note that Trans PolyIsoprene is basically the chemical name for balata and Polybutadiene is one of the first types of synthetic rubber or elastomer. As described in the Rule 132 Declaration of Edmund A. Hebert, the outer cover layer disclosed in Proudfit is the outer cover layer for the golf ball disclosed in Exhibit A and that cover has a Shore D hardness of 52. Thus, Proudfit's outer layer cover inherently has a Shore hardness of less than 64.

While Proudfit lacks disclosing the outer layer being made from polyurethane, in an analogous golf ball, Molitor '637 teaches using polyurethane, see Molitor '637, col. 5, ll. 33-41 and col. 18, examples 16 and 17. The request points out on page 62, ll. 3-9, why the use of polyurethane to one of ordinary skill in the art would be readily apparent given that those skilled in the art were more critical of the mechanical properties of a particular material than the chemical composition (material type) of the material and those remarks are incorporated herein. In other words, it was not critical to the "golf ball inventions" of those skilled in the art as to what materials were used to construct the golf balls so long as the materials had the desired mechanical properties which would yield the particular mechanical performance parameters the inventors were trying to achieve, e.g. improved processability; improved durability; cost

Application/Control Number:  
95/000,123  
Art Unit: 3993

Page 126

effectiveness; user acceptance of performance (similar “click” and “feel” to balata) of the golf ball product made from those materials. The request on page 42, ll. 12-20, explains why one of ordinary skill in the art would be motivated to substitute the outer cover layer taught in Molitor ‘637 for the outer cover layer disclosed in Proudfit and those remarks are incorporated herein.

Therefore, one of ordinary skill in the art would find the claimed invention as obvious for the motivation given in the request on page 43, ll. 12-20.

This rejection of claim 5 based on Proudfit in view of Molitor ‘637 was proposed by the third party requester in the request for reexamination and is being adopted essentially as proposed in the request.

#### Ground 33: Patent Owner’s Argument

Patent Owner does not specifically argue this rejection. The arguments are the same as those at “Ground 5: Patent Owner’s Argument,” *supra*.

#### Ground 33: Third Party Requester’s Comments

Third Party Requester does not specifically counter argue this rejection. The counter arguments are the same as those at “Ground 5: Third Party Requester’s Comments,” *supra*.

#### Ground 33: Examiner’s Response to the Argument and Comments

Examiner agrees with the general comments of the Third Party Requester, and the rejection of claim 5 under 35 USC 103(a) as being obvious by Nesbitt in view of Molitor

Application/Control Number:  
95/000,123  
Art Unit: 3993

Page 127

'637 is maintained. See "Ground 5: Examiner's Response to the Argument and Comments," *supra*.

**Proposed third party requester rejection: Ground #34**

The requester submits on pages 63 through 64 that claim 5 under 35 U.S.C. § 103(a) as being obvious over Proudfit, U.S. Pat. No. 5,314,187 (Proudfit) in view of Wu, U.S. Pat. No. 5,334,673 (Wu).

Claim 5 is rejected under 35 U.S.C. 103(a) as being unpatentable over Proudfit in view of Wu, as evidenced by Exhibit C.

Below is a claim chart identifying the claim limitations and where Proudfit discloses, teaches or suggests certain claim limitations.

Claim 5	Proudfit
A multi-layer golf ball comprising:	"This <b>invention relates to golf balls</b> , and more particularly, to a golf ball having a two-layer cover." (Proudfit, col. 1, ll. 11-12)
a spherical core;	"FIG. 1 illustrates a two-piece golf ball 10 which includes a solid <b>core 11</b> and a cover 12 which comprises a relatively hard inner layer 13 of one or more ionomer resins and a relatively soft outer layer 14 of polymeric material." (Proudfit, col. 7, ll. 21-24; Figs 1 and 2) "Two specific solid core compositions used with the new two-layer cover had the composition describe in Table 1. One core was used in a golf ball which was designated as a 90 compression ball, and the other core was used in a golf ball which was designated as a 100 compression ball." (Proudfit, col. 7, ll. 51-55) See figure 1 with respect to showing the spherical shaped core.
an inner cover layer disposed over said spherical core to form a spherical intermediate ball,	"FIG. 1 illustrates a two-piece golf ball 10 which includes a solid core 11 and a <b>cover 12 which comprises a relatively hard inner layer 13 of one or more ionomer resins</b> and a relatively soft outer layer 14 of polymeric material." (Proudfit, col. 7, ll. 21-24)

Application/Control Number:  
95/000,123  
Art Unit: 3993

Page 128

	<p>"The inner layer can be molded in one of two methods: 1. Injection molded over the core in a manner which is conventionally used to injection mold ionomers over a solid core. 2. Injection mold halfshells, place halfshells over a solid core, compression mold the inner cover over the core." (Proudfit, col. 8, lines 32-38.)</p>						
said inner cover having Shore D hardness of at least 60,	<p>"The composition of the inner cover layer is described in Table 6."</p> <table border="1"> <caption>TABLE 6 Composition of Inner Layer of Cover (Parts by Weight)</caption> <thead> <tr> <th>Ionomer Type</th><th>Blend Ratio</th></tr> </thead> <tbody> <tr> <td>Sodium-Surlin 8940</td><td>75%</td></tr> <tr> <td>Zinc-Surlin 9910</td><td>25%</td></tr> </tbody> </table> <p>(Proudfit, col. 8, ll. 22-30) See below with respect to the Shore D limitation.</p>	Ionomer Type	Blend Ratio	Sodium-Surlin 8940	75%	Zinc-Surlin 9910	25%
Ionomer Type	Blend Ratio						
Sodium-Surlin 8940	75%						
Zinc-Surlin 9910	25%						
said inner cover layer comprising an ionomeric resin having no more than 16% by weight of alpha, beta-unsaturated carboxylic acid and	<p>"The composition of the inner cover layer is described in Table 6."</p> <table border="1"> <caption>TABLE 6 Composition of Inner Layer of Cover (Parts by Weight)</caption> <thead> <tr> <th>Ionomer Type</th><th>Blend Ratio</th></tr> </thead> <tbody> <tr> <td>Sodium-Surlin 8940</td><td>75%</td></tr> <tr> <td>Zinc-Surlin 9910</td><td>25%</td></tr> </tbody> </table> <p>(Proudfit, col. 8, ll. 22-30) See below with respect to the % by weight limitation.</p>	Ionomer Type	Blend Ratio	Sodium-Surlin 8940	75%	Zinc-Surlin 9910	25%
Ionomer Type	Blend Ratio						
Sodium-Surlin 8940	75%						
Zinc-Surlin 9910	25%						
having a modulus of from about 15,000 to about 70,000 psi; and	<p>"The standard resins have a flexural modulus in the range of about 30,000 to about 55,000 psi as measured by ATM Method D-790. (Standard resins are referred to as "hard SURLYNS" in U.S. Patent No. 4,884,814." (Proudfit, col. 5, l. 66 - col. 6, l. 1.) "Specific standard SURLYN resins which can be used in the inner layer include 8940 (sodium), 9910 (zinc)...." (Proudfit, col. 6, ll. 6-7.) "The composition of the inner cover layer is described in Table 6."</p> <table border="1"> <caption>TABLE 6 Composition of Inner Layer of Cover (Parts by Weight)</caption> <thead> <tr> <th>Ionomer Type</th><th>Blend Ratio</th></tr> </thead> <tbody> <tr> <td>Sodium-Surlin 8940</td><td>75%</td></tr> <tr> <td>Zinc-Surlin 9910</td><td>25%</td></tr> </tbody> </table> <p>(Proudfit, col. 8, ll. 22-30)</p>	Ionomer Type	Blend Ratio	Sodium-Surlin 8940	75%	Zinc-Surlin 9910	25%
Ionomer Type	Blend Ratio						
Sodium-Surlin 8940	75%						
Zinc-Surlin 9910	25%						

Application/Control Number:  
95/000,123  
Art Unit: 3993

Page 129

and said inner cover layer having a thickness from about 0.100 to about 0.010 inches	"the thickness of the inner layer can be within the range of about 0.0250 to 0.2875 inches to provide a total diameter of the inner layer and core within the range of about 1.550 to 1.590 inch." (Proudfit, col. 7, ll. 37-40.) "The preferred dimensions are ... inner layer thickness of 0.037 inch ...." (Proudfit, col. 7, ll.43-44.)
a dimpled outer cover layer disposed over said spherical intermediate ball to form a multi-layer golf ball,	see Figure 1.
said outer cover having a Shore D hardness of about 64 or less	"... an <b>outer layer</b> of soft material such as balata or a <b>blend of balata and other elastomers.</b> " (Proudfit, col. 5, ll. 15-17) This material inherently has a Shore D hardness of less than 64, see the reasoning below.
said outer cover layer comprising a polyurethane,	"... an <b>outer layer</b> of soft material such as balata or a <b>blend of balata and other elastomers.</b> " (Proudfit, col. 5, ll. 15-17)
said outer cover layer having a modulus in a range of about 1,000 to about 30,000 psi	"The relatively soft elastomeric material of the outer layer has a flexural modulus in the range of about 20,000 to 25,000 psi, and in one specific embodiment had a flexural modulus of from 22,165 to 22,379 psi. (Proudfit, col. 6, ll. 28-31.)
said outer cover layer having a thickness of 0.010 to 0.070 inches,	"The thickness of the outer layer can be within the range of about 0.0450 to 0.0650 inch to provide a total ball diameter of 1.680 inch. The preferred dimensions are ... an outer layer thickness of 0.0525 inch...." (Proudfit, col. 7, ll. 40-46)

Wu teaches that polyurethane was being used as the outer layer of golf ball *circa* 1993. Wu further teaches in col. 1:36-46 that SURLYN covered golf balls lack the "click" and "feel" of balata which golfers have become accustomed to such sensations and polyurethane covered golf balls can be made to have a similar "click" and "feel" of balata. Wu also at least teaches that polyurethanes made according to its invention will have Shore D hardness directly proportional to the degree of cure of the cover; and this Shore D hardness ranges from 10 to 30, preferably 12 to 20 on the Shore D scale, see col. 6:26-38. This teaching of Shore D hardness is directed to an intermediate curing step product prior to the final molding process to finish the golf ball. Exhibit C demonstrates the actual finished golf ball product having the cover layer that



Application/Control Number:  
95/000,123  
Art Unit: 3993

Page 130

Wu teaches within its disclosure. Exhibit C teaches that the golf ball taught therein is covered by the following patents: 4,783,078; 4,846,910; 4,858,923; 4,904,320; 4,915,390; 5,007,594; 5,080,367; 5,133,509; **5,334,673**; and D339,074. The '673 Patent teaches the cover sock of the Exhibit C finished golf ball. Exhibit C teaches that the golf ball taught therein has a cover material made from an "elastomer", having a thickness of .050", and 58 Shore D hardness. All three properties are within the range of mechanical properties of the claim invention (polyurethane is an elastomer, cover layer thickness ranges from 0.010 to 0.070 inches and the Shore D hardness is less than 64). Because it has been admitted by the inventor of the Sullivan '893 patent that the particular chemical properties of the materials (the chemical composition) used in the construction of a golf ball lack criticality as compared to the mechanical properties (the Shore D hardness, flexural modulus, layer thickness) of those compounds used for constructing the different layers (Exhibit G at 334), one of ordinary skill in the art at the time the invention was made would find it obvious to incorporate the teachings of Wu which inherently include the teachings of Shore hardness for the fully cured cover layer as taught in Exhibit C as obvious equivalent materials in order to achieve the same end result of providing a cover layer that has the same "click" and "feel" of a balata cover which the extra durability of an elastomeric material.

This rejection of claim 5 based on Proudfit in view of Wu as evidenced by Exhibit C was proposed by the third party requester in the request for reexamination and is being adopted essentially as proposed in the request.

Ground 34: Patent Owner's Argument

Application/Control Number:  
95/000,123  
Art Unit: 3993

Page 131

Patent Owner does not specifically argue this rejection. The arguments are the same as those at "Ground 6: Patent Owner's Argument," *supra*.

#### Ground 34: Third Party Requester's Comments

Third Party Requester does not specifically counter argue this rejection. The counter arguments are the same as those at "Ground 6: Third Party Requester's Comments," *supra*.

#### Ground 34: Examiner's Response to the Argument and Comments

Examiner agrees with the general comments of the Third Party Requester, and the rejection of claim 5 under 35 USC 103(a) as being obvious by Nesbitt in view of Molitor '637 is maintained. See "Ground 6: Examiner's Response to the Argument and Comments," *supra*.

#### **Proposed third party requester rejection: Ground #35**

The requester submits on pages 64 through 66 that claim 5 under 35 U.S.C. § 103(a) as being obvious over Proudfit, U.S. Pat. No. 5,314,187 (Proudfit) in view of Molitor et al., U.S. Pat. No. 4,674,751 (Molitor '751).

Claim 5 is rejected under 35 U.S.C. § 103(a) as being unpatentable over Proudfit in view of Molitor '751.

Below is a claim chart identifying the claim limitations and where Proudfit discloses, teaches or suggests certain claim limitations.

Application/Control Number:  
95/000,123  
Art Unit: 3993

Page 132

Claim 5	Proudfit								
A multi-layer golf ball comprising:	"This invention relates to golf balls, and more particularly, to a golf ball having a two-layer cover." (Proudfit, col. 1, ll. 11-12)								
a spherical core;	<p>"FIG. 1 illustrates a two-piece golf ball 10 which includes a solid core 11 and a cover 12 which comprises a relatively hard inner layer 13 of one or more ionomer resins and a relatively soft outer layer 14 of polymeric material." (Proudfit, col. 7, ll. 21-24; Figs 1 and 2)</p> <p>"Two specific solid core compositions used with the new two-layer cover had the composition describe in Table 1. One core was used in a golf ball which was designated as a 90 compression ball, and the other core was used in a golf ball which was designated as a 100 compression ball." (Proudfit, col. 7, ll. 51-55)</p> <p>See figure 1 for the spherical shaped core.</p>								
an inner cover layer disposed over said spherical core to form a spherical intermediate ball,	<p>"FIG. 1 illustrates a two-piece golf ball 10 which includes a solid core 11 and a cover 12 which comprises a relatively hard inner layer 13 of one or more ionomer resins and a relatively soft outer layer 14 of polymeric material." (Proudfit, col. 7, ll. 21-24)</p> <p>"The inner layer can be molded in one of two methods:</p> <ol style="list-style-type: none"> <li>1. Injection molded over the core in a manner which is conventionally used to injection mold ionomers over a solid core.</li> <li>2. Injection mold halfshells, place halfshells over a solid core, compression mold the inner cover over the core." (Proudfit, col. 8, lines 32-38.)</li> </ol>								
said inner cover having Shore D hardness of at least 60,	<p>"The composition of the inner cover layer is described in Table 6."</p> <table border="1"> <caption>TABLE 6</caption> <thead> <tr> <th colspan="2">Composition of Inner Layer of Cover (Parts by Weight)</th> </tr> <tr> <th>Ionomer Type</th> <th>Blend Ratio</th> </tr> </thead> <tbody> <tr> <td>Sodium- Surlin 8940</td> <td>75%</td> </tr> <tr> <td>Zinc- Surlin 9910</td> <td>25%</td> </tr> </tbody> </table> <p>(Proudfit, col. 8, ll. 22-30)</p> <p>See below with respect to the Shore D limitation.</p>	Composition of Inner Layer of Cover (Parts by Weight)		Ionomer Type	Blend Ratio	Sodium- Surlin 8940	75%	Zinc- Surlin 9910	25%
Composition of Inner Layer of Cover (Parts by Weight)									
Ionomer Type	Blend Ratio								
Sodium- Surlin 8940	75%								
Zinc- Surlin 9910	25%								
said inner cover layer comprising an ionomeric resin having no more than 16% by weight of alpha, beta-unsaturated carboxylic acid and	"The composition of the inner cover layer is described in Table 6."								

Application/Control Number:  
95/000,123  
Art Unit: 3993

Page 133

	<p style="text-align: center;"><b>TABLE 6</b></p> <hr/> <p style="text-align: center;">Composition of Inner Layer of Cover (Parts by Weight)</p> <hr/> <table> <tr> <th style="text-align: center;">Ionomer Type</th><th style="text-align: center;">Blend Ratio</th></tr> <tr> <td style="text-align: center;">Sodium-Surlin 8940</td><td style="text-align: center;">75%</td></tr> <tr> <td style="text-align: center;">Zinc-Surlin 9910</td><td style="text-align: center;">25%</td></tr> </table> <hr/> <p>(Proudfit, col. 8, ll. 22-30) See below with respect to the % by weight limitation.</p>	Ionomer Type	Blend Ratio	Sodium-Surlin 8940	75%	Zinc-Surlin 9910	25%
Ionomer Type	Blend Ratio						
Sodium-Surlin 8940	75%						
Zinc-Surlin 9910	25%						
having a modulus of from about 15,000 to about 70,000 psi; and	<p>"The standard resins have a flexural modulus in the range of about 30,000 to about 55,000 psi as measured by ATM Method D-790. (Standard resins are referred to as "hard SURLYNS" in U.S. Patent No. 4,884,814." (Proudfit, col. 5, l. 66 - col. 6, l. 1.)</p> <p>"Specific standard SURLYN resins which can be used in the inner layer include 8940 (sodium), 9910 (zinc)...." (Proudfit, col. 6, ll. 6-7.)</p> <p>"The composition of the inner cover layer is described in Table 6."</p> <p style="text-align: center;"><b>TABLE 6</b></p> <hr/> <p style="text-align: center;">Composition of Inner Layer of Cover (Parts by Weight)</p> <hr/> <table> <tr> <th style="text-align: center;">Ionomer Type</th><th style="text-align: center;">Blend Ratio</th></tr> <tr> <td style="text-align: center;">Sodium-Surlin 8940</td><td style="text-align: center;">75%</td></tr> <tr> <td style="text-align: center;">Zinc-Surlin 9910</td><td style="text-align: center;">25%</td></tr> </table> <hr/> <p>(Proudfit, col. 8, ll. 22-30)</p>	Ionomer Type	Blend Ratio	Sodium-Surlin 8940	75%	Zinc-Surlin 9910	25%
Ionomer Type	Blend Ratio						
Sodium-Surlin 8940	75%						
Zinc-Surlin 9910	25%						
and said inner cover layer having a thickness from about 0.100 to about 0.010 inches	<p>"the thickness of the inner layer can be within the range of about 0.0250 to 0.2875 inches to provide a total diameter of the inner layer and core within the range of about 1.550 to 1.590 inch." (Proudfit, col. 7, ll. 37-40.)</p> <p>"The preferred dimensions are ... inner layer thickness of 0.037 inch ...." (Proudfit, col. 7, ll. 43-44.)</p>						
a dimpled outer cover layer disposed over said spherical intermediate ball to form a multi-layer golf ball,	see Figure 1						
said outer cover having a Shore D hardness of about 64 or less	<p>"... an <b>outer layer</b> of soft material such as balata or a <b>blend of balata and other elastomers</b>." (Proudfit, col. 5, ll. 15-17)</p> <p>This material inherently has a Shore D hardness of less than 64, see the reasoning below.</p>						
said outer cover layer comprising a polyurethane,	"... an <b>outer layer</b> of soft material such as balata or a <b>blend of balata and other elastomers</b> ." (Proudfit, col. 5, ll. 15-17)						
said outer cover layer having a modulus in a range of about 1,000 to about 30,000 psi	"The relatively soft elastomeric material of the outer layer has a flexural modulus in the range of about 20,000 to 25,000 psi, and in one specific embodiment had a flexural modulus of from 22,165 to 22,379 psi. (Proudfit, col. 6, ll. 28-31.)						
said outer cover layer having a thickness	"The thickness of the outer layer can be within the range of						

Application/Control Number:  
95/000,123  
Art Unit: 3993

Page 134

of 0.010 to 0.070 inches,	about 0.0450 to 0.0650 inch to provide a total ball diameter of 1.680 inch. The preferred dimensions are ... an outer layer thickness of 0.0525 inch....” (Proudfit, col. 7, ll. 40-46)
---------------------------	---

As expressed in the request on page 64 and identified above within the claim chart, Proudfit teaches a golf ball have a two-piece cover including a hard, ionomeric inner cover layer and a soft balata blend outer cover layer. Proudfit lacks in disclosing the use of polyurethane as the material for the outer cover layer. Instead, as shown in Table 7, reproduced below, Proudfit discloses the outer cover layer being made of a blend of balata.

TABLE 7	
Composition of Outer Layer (Parts by Weight)	
Trans Polyisoprene (TP-301)	60.00
Polybutadiene	40.00
Zinc Oxide	1.00
Titanium Dioxide	17.00
Ultramarine Blue color	.30
Zinc DiAcrylate	33.00
Peroxide (Varon 230 XL)	2.30
Total	160.00

However, those skilled in the art understand the disadvantages of balata covered golf balls. As admitted by the patent owner:

[d]espite all the benefits of balata, balata covered golf balls are easily cut and/or damaged if mis-hit. Golf balls produced with balata or balata-containing cover compositions therefore have a relatively short lifespan.

(Sullivan '873, col. 1, ll. 39-42). With this disadvantage of balata covered golf balls, golf ball designers looked for materials that would provide the same “click” and “feel” golfers expected and have increased durability.

As pointed out in the request on page 28, lines 4-15, in an analogous golf ball, Molitor '751 teaches that:

It has now been discovered that a key to manufacturing a two-piece ball having playability properties similar to wound, balata-covered balls is to provide about an inner resilient molded core

Application/Control Number:  
95/000,123  
Art Unit: 3993

Page 135

**a cover having a shore C hardness less than 85, preferably 70-80, and most preferably 72-76.** The novel cover of the golf ball of the invention is made of a composition comprising a blend of (1) a **thermoplastic urethane having a shore A hardness less than 95** and (2) an ionomer having a shore D hardness greater than 55. The ionomer comprises olefinic groups having two to four carbon atoms copolymerized with acrylic or methacrylic acid groups and cross-linked with metal ions, preferably sodium or zinc ions. **The primary components of the blended cover are set at a weight ratio so as to result in a cover material after molding having a shore C hardness within the range of 70 to 85, preferably 72 to 76.** Preferably, the urethane component of the cover material has a tensile strength greater than 2500 psi and an elongation at break greater than 250%. A preferred cover material comprises about 8 parts of the thermoplastic urethane and between 1 and 4 parts ionomer. Preferably, the cover is no greater than 0.060 inch thick. Thinner covers appear to maximize the short iron playability characteristics of the balls.

(Molitor '751, col. 33-57 (emphasis added)). Thus, Molitor '751 teaches having a outer cover layer with a Shore C hardness less than 85 and preferably between 72 and 76. Moreover, Molitor '751 teaches what golf balls are included in the definition of "two-piece" ball within its instant specification.

The phrase "two-piece ball" as used herein refers primarily to balls consisting of a molded core and a cover, **but also includes balls having a separate solid layer beneath the cover as disclosed, for example, in U.S. Pat. No. 4,431,193 to Nesbitt, and other balls having non-wound cores.**

Molitor '751, col. 3, ll. 7-12 (emphasis added)). Proudfit, likewise, teaches the two-piece golf balls can fit within this definition.

FIG. 1 illustrates a two-piece golf ball 10 which includes a solid core 11 and a cover 12 which comprises a relatively hard inner layer 13 of one or more ionomer resins and a relatively soft outer layer 14 of polymeric material.

(Proudfit, col. 7, ll. 21-24).

As stated above, Molitor '751 teaches the cover of the golf ball has a Shore C hardness of less than 85, preferably 70-80, most preferably 72-76. As described in Molitor '751's TABLE bridging columns 7 and 8, Sample 8 constitutes one of the preferred embodiments and its cover is taught to have a Shore C hardness of 73. Patent Owner has admitted that a Shore C hardness of 73 is equal to a Shore D hardness of 47, see U.S. Pat. No. 6,905,648, Table 19 (Exhibit L).

Application/Control Number:  
95/000,123  
Art Unit: 3993

Page 136

Thus, a cover having a Shore C hardness of between 72 and 76 will inherently have a Shore D hardness of less than 64.

How one of ordinary skill in the art would discover this inherent mechanical property of Shore D hardness for the polyurethane material used in Molitor '751 is by "translating" a Shore C value to a Shore D value for the polyurethane material. How one of ordinary skill in the art "translates" a Shore C value to a Shore D value is by taking the known Shore hardness values with a given range, in this instance Shore C, for given materials, in this instance a polyurethane golf ball covers materials, and taking corresponding measurements with a different set of Shore gauges, in this instance Shore D (but could also be Shore A). A resulting trendline plot occurs from performing this procedure wherein the range of known Shore C values are the abscissa and the range of measured Shore D values are the ordinate. Then, said plot can be use to read equivalent Shore D value for any given Shore C value within the known range of Shore C. This is how one of ordinary skill in the art can know the equivalent Shore D or even Shore A hardness value for any given Shore C hardness value.

As stated in the request on page 29

Therefore, it would have been obvious to one of ordinary skill in the art at the time of the invention to substitute the soft outer cover layer of Nesbitt and replace it with an outer cover layer made of the soft polyurethane material taught by Molitor '751 to provide a golf ball that includes "playability properties as good or better than balata-covered wound balls but are significantly more durable," and "have better wood playability properties than conventional two-piece balls, and permit experienced golfers to apply spin so as to fade or draw a shot" while having improved puttability. (Molitor '751, col. 2, ll. 61-68)

Application/Control Number:  
95/000,123  
Art Unit: 3993

Page 137

This rejection of claim 5 based on Proudfit in view of Molitor '751 was proposed by the third party requester in the request for reexamination and is being adopted essentially as proposed in the request.

#### Ground 35: Patent Owner's Argument

Patent Owner does not specifically argue this rejection. The arguments are the same as those at "Ground 7: Patent Owner's Argument," *supra*.

#### Ground 35: Third Party Requester's Comments

Third Party Requester does not specifically counter argue this rejection. The counter arguments are the same as those at "Ground 7: Third Party Requester's Comments," *supra*.

#### Ground 35: Examiner's Response to the Argument and Comments

Examiner agrees with the general comments of the Third Party Requester, and the rejection of claim 5 under 35 USC 103(a) as being obvious by Nesbitt in view of Molitor '637 is maintained. See "Ground 7: Examiner's Response to the Argument and Comments," *supra*.

#### Re. Claim 6

**Proposed third party requester rejection: Ground #36**



Application/Control Number:  
95/000,123  
Art Unit: 3993

Page 138

The requester submits on pages 66 through 67 that claim 6 is unpatentable under 35 U.S.C. § 102(b) as being anticipated by Nesbitt, U.S. Pat. No. 4,431,193.

In the request on pages 66 through 67 the third party requester proposes that claim 6 be rejected based upon Nesbitt alone with the incorporation by reference of Molitor '637. The third party requester points out that Molitor '637 is incorporated by reference into Nesbitt because Nesbitt refers to Molitor '637. (See Nesbitt col. 3, ll. 54-60).

**This rejection is adopted in this office action.**

Claim 6 is rejected under 35 U.S.C. § 103(a) as being unpatentable over Nesbitt in view of Molitor '637.

The below claim chart identifies the new limitations introduced by dependent claim 6.

Claim 6	Nesbitt
wherein the Shore D hardness of said outer cover layer is less than the Shore D hardness of said inner cover layer.	<p>"The disclosure embraces a golf ball and method of making same wherein the golf ball has a ... multilayer cover construction which involves a first layer or play of molded hard, high flexural modulus resinous material on the core, and a second or cover layer of soft, low flexural modulus resinous material molded over the first layer to form a finished golf ball." (Nesbitt, abstract).</p> <p>"[I]nner cover 14 of molded hard, high flexural modulus resinous material such as type 1605 SURLYN marketed by E.I. DuPont de Nemours." (Nesbitt, col. 2, ll. 36-38).</p> <p>Sullivan '873 Patent: "Type 1605 SURLYN (now designated SURLYN 8940) ('873 patent, col. 2, ll. 46-47.)</p> <p><b><u>Molitor '637</u> teaches in TABLE 10 an outer layer made from a thermoplastic polyurethane identified as ESTANE 58133.</b></p>

As mentioned above, Nesbitt incorporating by reference Molitor '637 as describing an number of compositions suitable for the inner cover layer 14. Of particular interest in this case are Examples 1-7 within Molitor '637. Examples 1-7 use a ratio of SURLYN 1605 and SURLYN 1557. The use of SURLYN grades for golf ball covers is also disclosed in U.S. Pat.

Application/Control Number:  
95/000,123  
Art Unit: 3993

Page 139

No. 4,690,981. The preferred composition in the '981 Patent has "from about 5[%] to about 15% by weight of unsaturated carboxylic acid." '981 Pat., col. 3, ll. 59-60. Those of ordinary skill in the art understand that SURLYN 1605 has been "redesignated" as SURLYN 8940 and SURLYN 1557 has been "redesignated" as SURLYN 9650, see e.g. U.S. Pat. No. 4,679,795, col. 6, ll. 10-15 and U.S. Pat. No. 5,150,906, col. 4, ll. 66. Furthermore, the Patent Owner in the Sullivan '873 Patent admitted that SURLYN 1605 is now designated as 8940 and was used in Nesbitt's first (inner) layer and is a sodium ion based low acid "(less than or equal to 15 weight percent methacrylic acid) ionomer resin having a flexural modulus of about 51,000 psi." See '873 Patent, col. 2, ll. 43-50. Moreover, as shown in the "Properties Grid for Selected Industrial Grades of SURLYN" SURLYN 9650's ordinate compared to the other grades of SURLYN is toward the "Low % Acid" side of the graph. Thus, based on this evidence, Nesbitt referencing Molitor '637 inherently teaches using as an inner layer at least one ionomer resin having no more than 16% by weight of alpha, beta-unsaturated carboxylic acid. Also, as mentioned above, Molitor '637 teaches in TABLE 10 an outer layer made from a thermoplastic polyurethane identified as ESTANE 58133. A review of the scientific literature yields that ESTANE 58133 has an inherent Shore D hardness of 55, see Exhibit J "ESTANE 58133 TPU Product Data Sheet". A Shore D hardness of 55 is within the range claimed of Shore D hardness less than 64. Therefore, Molitor '637's teaching of using ESTANE 58133 inherently meets the claim limitation of providing a outer cover layer of polyurethane material having a Shore hardness of less than 64. Nesbitt discloses its outer layer was made from SURLYN 1855 (now SURLYN 9020). This material had inherently flexural modulus of about 14,000 psi and a Shore hardness of 55, see Exhibit I "Typical Properties for Selected Grades of SURLYN". Moreover, as

Application/Control Number:  
95/000,123  
Art Unit: 3993

Page 140

admitted by the inventor Sullivan of the '873 patent, golf ball designers knew that the mechanical properties of the materials used as a golf-ball cover layer were more critical to golf ball performance than the actual materials themselves, see Exhibit G at 334.

This rejection of claim 6 based on Nesbitt incorporating Molitor '637 was proposed by the third party requester in the request for reexamination and is being adopted essentially as proposed in the request.

#### Ground 36: Patent Owner's Argument

Patent Owner does not argue this rejection.

#### Ground 36: Third Party Requester's Comments

Third Party Requester's arguments for this claim are the same as given *supra* at "Ground 1: Third Party Requester's Comments."

#### Ground 36: Examiner's Response to the Argument and Comments

Upon review, the Examiner agrees with the arguments of the Third Party Requester and adopts this suggested rejection. See "Ground 1: Examiner's Response to the Argument and Comments," *supra*.

**Proposed third party requester rejection: Ground #37**

Application/Control Number:  
95/000,123  
Art Unit: 3993

Page 141

As an alternative to Ground #36, the requester submits on pages 66 and 67 of the request that claim 6 is unpatentable under 35 U.S.C. § 103(a) as being obvious over Nesbitt, U.S. Pat. No. 4,431,193, in view of Molitor et al., U.S. Pat. No. 4,274,637, (Molitor '637).

Claim 6 is rejected under 35 U.S.C. § 103(a) as being unpatentable over Nesbitt in view of Molitor '637.

The below claim chart identifies the new limitations introduced by dependent claim 6.

Claim 6	Nesbitt
wherein the Shore D hardness of said outer cover layer is less than the Shore D hardness of said inner cover layer.	<p>"The disclosure embraces a golf ball and method of making same wherein the golf ball has a ... multilayer cover construction which involves a first layer or play of molded hard, high flexural modulus resinous material on the core, and a second or cover layer of soft, low flexural modulus resinous material molded over the first layer to form a finished golf ball." (Nesbitt, abstract).</p> <p>"[I]nner cover 14 of molded hard, high flexural modulus resinous material such as type 1605 SURLYN marketed by E.I. DuPont de Nemours." (Nesbitt, col. 2, ll. 36-38).</p> <p>Sullivan '873 Patent: "Type 1605 SURLYN (now designated SURLYN 8940) ('873 patent, col. 2, ll. 46-47.)</p> <p><b>Molitor '637</b> teaches in TABLE 10 an outer layer made from a thermoplastic polyurethane identified as ESTANE 58133.</p>

As mentioned above, Nesbitt references Molitor '637 as describing an number of compositions suitable for the inner cover layer 14. Of particular interest in this case are Examples 1-7 within Molitor '637. Examples 1-7 use a ratio of SURLYN 1605 and SURLYN 1557. The use of SURLYN grades for golf ball covers is also disclosed in U.S. Pat. No. 4,690,981. The preferred composition in the '981 Patent has "from about 5[%] to about 15% by weight of unsaturated carboxylic acid." '981 Pat., col. 3, ll. 59-60. Those of ordinary skill in the art understand that SURLYN 1605 has been "redesignated" as SURLYN 8940 and SURLYN 1557 has been "redesignated" as SURLYN 9650, see e.g. U.S. Pat. No. 4,679,795, col. 6, ll. 10-

Application/Control Number:  
95/000,123  
Art Unit: 3993

Page 142

15 and U.S. Pat. No. 5,150,906, col. 4, ll. 66. Furthermore, the Patent Owner in the Sullivan '873 Patent admitted that SURLYN 1605 is now designated as 8940 and was used in Nesbitt's first (inner) layer and is a sodium ion based low acid "(less than or equal to 15 weight percent methacrylic acid) ionomer resin having a flexural modulus of about 51,000 psi." See '873 Patent, col. 2, ll. 43-50. Moreover, as shown in the "Properties Grid for Selected Industrial Grades of SURLYN" SURLYN 9650's ordinate compared to the other grades of SURLYN is toward the "Low % Acid" side of the graph. Thus, based on this evidence, Nesbitt referencing Molitor '637 inherently teaches using as an inner layer at least one ionomer resin having no more than 16% by weight of alpha, beta-unsaturated carboxylic acid. Also, as mentioned above, Molitor '637 teaches in TABLE 10 an outer layer made from a thermoplastic polyurethane identified as ESTANE 58133. A review of the scientific literature yields that ESTANE 58133 has an inherent Shore D hardness of 55, see Exhibit J "ESTANE 58133 TPU Product Data Sheet". A Shore D hardness of 55 is within the range claimed of Shore D hardness less than 64. Therefore, Molitor '637's teaching of using ESTANE 58133 inherently meets the claim limitation of providing a outer cover layer of polyurethane material having a Shore hardness of less than 64. Nesbitt discloses its outer layer was made from SURLYN 1855 (now SURLYN 9020). This material had inherently flexural modulus of about 14,000 psi and a Shore hardness of 55, see Exhibit I "Typical Properties for Selected Grades of SURLYN". Moreover, as admitted by the inventor Sullivan of the '873 patent, golf ball designers knew that the mechanical properties of the materials used as a golf-ball cover layer were more critical to golf ball performance than the actual materials themselves, see Exhibit G at 334. Thus, because the actual chemical composition of the material is not critical to the practice of the invention with

Application/Control Number:  
95/000,123  
Art Unit: 3993

Page 143

respect to its mechanical performance, i.e. its “click and feel” for a golfer, one of ordinary skill in the art at the time the invention was made would find it obvious to substitute one material for another material if both materials had substantially the same mechanical properties.

This rejection of claim 6 based on Nesbitt in view of Molitor ‘637 was proposed by the third party requester in the request for reexamination and is being adopted essentially as proposed in the request.

#### Ground 37: Patent Owner’s Argument

Patent Owner does not specifically argue this rejection. The arguments are the same as those at “Ground 2: Patent Owner’s Argument,” *supra*.

#### Ground 37: Third Party Requester’s Comments

Third Party Requester does not specifically counter argue this rejection. The counter arguments are the same as those at “Ground 2: Third Party Requester’s Comments,” *supra*.

#### Ground 37: Examiner’s Response to the Argument and Comments

Examiner agrees with the general comments of the Third Party Requester, and the rejection of claim 6 under 35 USC 103(a) as being obvious by Nesbitt in view of Molitor ‘637 is maintained. See “Ground 2: Examiner’s Response to the Argument and Comments,” *supra*.

**Proposed third party requester rejection: Ground #38**

Application/Control Number:  
95/000,123  
Art Unit: 3993

Page 144

As an alternative to Ground #36, the requester submits on pages 66 and 67 of the request that claim 6 is unpatentable under 35 U.S.C. § 103(a) as being obvious over Nesbitt, U.S. Pat. No. 4,431,193 in view of Wu, U.S. Pat. No. 4,274,637, (Molitor '637).

Claim 6 is rejected under 35 U.S.C. § 103(a) as being unpatentable over Nesbitt mentioning Molitor et al., U.S. Pat. No. 4,274,637 (Molitor '637) in view of Wu, as evidenced by Exhibit C.

The below claim chart identifies the new limitations introduced by dependent claim 6.

Claim 6	Nesbitt
wherein the Shore D hardness of said outer cover layer is less than the Shore D hardness of said inner cover layer.	<p>"The disclosure embraces a golf ball and method of making same wherein the golf ball has a ... multilayer cover construction which involves a first layer or play of molded hard, high flexural modulus resinous material on the core, and a second or cover layer of soft, low flexural modulus resinous material molded over the first layer to form a finished golf ball." (Nesbitt, abstract).</p> <p>"[I]nner cover 14 of molded hard, high flexural modulus resinous material such as type 1605 SURLYN marketed by E.I. DuPont de Nemours." (Nesbitt, col. 2, ll. 36-38).</p> <p>Sullivan '873 Patent: "Type 1605 SURLYN (now designated SURLYN 8940) ('873 patent, col. 2, ll. 46-47.)</p> <p><b>Molitor '637</b> teaches in TABLE 10 an outer layer made from a thermoplastic polyurethane identified as ESTANE 58133.</p>

As mentioned above, Nesbitt references Molitor '637 as describing an number of compositions suitable for the inner cover layer 14. Of particular interest in this case are Examples 1-7 within Molitor '637. Examples 1-7 use a ratio of SURLYN 1605 and SURLYN 1557. The use of SURLYN grades for golf ball covers is also disclosed in U.S. Pat. No. 4,690,981. The preferred composition in the '981 Patent has "from about 5[%] to about 15% by weight of unsaturated carboxylic acid." '981 Pat., col. 3, ll. 59-60. Those of ordinary skill in the art understand that SURLYN 1605 has been "redesignated" as SURLYN 8940 and SURLYN

Application/Control Number:  
95/000,123  
Art Unit: 3993

Page 145

1557 has been “redesignated” as SURLYN 9650, see e.g. U.S. Pat. No. 4,679,795, col. 6, ll. 10-15 and U.S. Pat. No. 5,150,906, col. 4, ll. 66. Furthermore, the Patent Owner in the Sullivan ‘873 Patent admitted that SURLYN 1605 is now designated as 8940 and was used in Nesbitt’s first (inner) layer and is a sodium ion based low acid “(less than or equal to 15 weight percent methacrylic acid) ionomer resin having a flexural modulus of about 51,000 psi.” See ‘873 Patent, col. 2, ll. 43-50. Moreover, as shown in the “Properties Grid for Selected Industrial Grades of SURLYN” SURLYN 9650’s ordinate compared to the other grades of SURLYN is toward the “Low % Acid” side of the graph. Thus, based on this evidence, Nesbitt referencing Molitor ‘637 inherently teaches using as an inner layer at least one ionomer resin having no more than 16% by weight of alpha, beta-unsaturated carboxylic acid. Also, as mentioned above, Molitor ‘637 teaches in TABLE 10 an outer layer made from a thermoplastic polyurethane identified as ESTANE 58133. A review of the scientific literature yields that ESTANE 58133 has an inherent Shore D hardness of 55, see Exhibit J “ESTANE 58133 TPU Product Data Sheet”. A Shore D hardness of 55 is within the range claimed of Shore D hardness less than 64. Therefore, Molitor ‘637’s teaching of using ESTANE 58133 inherently meets the claim limitation of providing a outer cover layer of polyurethane material having a Shore hardness of less than 64. Nesbitt discloses its outer layer was made from SURLYN 1855 (now SURLYN 9020). This material had inherently flexural modulus of about 14,000 psi and a Shore hardness of 55, see Exhibit I “Typical Properties for Selected Grades of SURLYN”. Moreover, as admitted by the inventor Sullivan of the ‘873 patent, golf ball designers knew that the mechanical properties of the materials used as a golf-ball cover layer were more critical to golf ball performance than the actual materials themselves, see Exhibit G at 334. Thus, because the



Application/Control Number:  
95/000,123  
Art Unit: 3993

Page 146

actual chemical composition of the material is not critical to the practice of the invention with respect to its mechanical performance, i.e. its “click and feel” for a golfer, one of ordinary skill in the art at the time the invention was made would find it obvious to substitute one material for another material if both materials had substantially the same mechanical properties.

Wu teaches that polyurethane was being used as the outer layer of golf ball *circa* 1993. Wu further teaches in col. 1:36-46 that SURLYN covered golf balls lack the “click” and “feel” of balata which golfers have become accustomed to such sensations and polyurethane covered golf balls can be made to have a similar “click” and “feel” of balata. Wu also at least teaches that polyurethanes made according to its invention will have Shore D hardness directly proportional to the degree of cure of the cover; and this Shore D hardness ranges from 10 to 30, preferably 12 to 20 on the Shore D scale, see col. 6:26-38. This teaching of Shore D hardness is directed to an intermediate curing step product prior to the final molding process to finish the golf ball. Exhibit C demonstrates the actual finished golf ball product having the cover layer that Wu teaches within its disclosure. Exhibit C teaches that the golf ball taught therein is covered by the following patents: 4,783,078; 4,846,910; 4,858,923; 4,904,320; 4,915,390; 5,007,594; 5,080,367; 5,133,509; **5,334,673**; and D339,074. The ‘673 Patent teaches the cover sock of the Exhibit C finished golf ball. Exhibit C teaches that the golf ball taught therein has a cover material made from an “elastomer”, having a thickness of .050”, and 58 Shore D hardness. All three properties are within the range of mechanical properties of the claim invention (polyurethane is an elastomer, cover layer thickness ranges from 0.010 to 0.070 inches and the Shore D hardness is less than 64). Because it has been admitted by the inventor of the Sullivan ‘893 patent that the particular chemical properties of the materials (the chemical composition)

Application/Control Number:  
95/000,123  
Art Unit: 3993

Page 147

used in the construction of a golf ball lack criticality as compared to the mechanical properties (the Shore D hardness, flexural modulus, layer thickness) of those compounds used for constructing the different layers (Exhibit G at 334), one of ordinary skill in the art at the time the invention was made would find it obvious to incorporate the teachings of Wu which inherently include the teachings of Shore hardness for the fully cured cover layer as taught in Exhibit C as obvious equivalent materials in order to achieve the same end result of providing a cover layer that has the same “click” and “feel” of a balata cover which the extra durability of an elastomeric material.

This rejection of claim 6 based on Nesbitt mentioning Molitor ‘637 in view of Wu as evidenced by Exhibit C was proposed by the third party requester in the request for reexamination and is being adopted essentially as proposed in the request.

#### Ground 38: Patent Owner’s Argument

Patent Owner does not specifically argue this rejection. The arguments are the same as those at “Ground 3: Patent Owner’s Argument and Ground 31: Patent Owner’s Argument,” *supra*.

#### Ground 38: Third Party Requester’s Comments

Third Party Requester does not specifically counter argue this rejection. The counter arguments are the same as those at “Ground 3: Third Party Requester’s Comments and Ground 31: Third Party Requester’s Comments,” *supra*.

#### Ground 38: Examiner’s Response to the Argument and Comments

Application/Control Number:  
95/000,123  
Art Unit: 3993

Page 148

Examiner agrees with the general comments of the Third Party Requester, and the rejection of claim 6 under 35 USC 103(a) as being obvious by Nesbitt in view of Molitor '637 is maintained. See "Ground 3: Examiner's Response to the Argument and Comments and Ground 31: Examiner's Response to the Argument and Comments," *supra*.

**Proposed third party requester rejection: Ground #39**

As an alternative to Ground #36, the requester submits on pages 66 and 67 of the request that claim 6 is unpatentable under 35 U.S.C. § 103(a) as being obvious over Nesbitt, U.S. Pat. No. 4,431,193, in view of Molitor et al., U.S. Pat. No. 4,674,751, (Molitor '751).

Claim 6 is rejected under 35 U.S.C. § 103(a) as being unpatentable over Nesbitt mentioning Molitor et al., U.S. Pat. No. 4,274,637 (Molitor '637) in view of Molitor '751.

The below claim chart identifies the new limitations introduced by dependent claim 6.

Claim 6	Nesbitt
wherein the Shore D hardness of said outer cover layer is less than the Shore D hardness of said inner cover layer.	<p>"The disclosure embraces a golf ball and method of making same wherein the golf ball has a ... multilayer cover construction which involves a first layer or play of molded hard, high flexural modulus resinous material on the core, and a second or cover layer of soft, low flexural modulus resinous material molded over the first layer to form a finished golf ball." (Nesbitt, abstract).</p> <p>"[I]nner cover 14 of molded hard, high flexural modulus resinous material such as type 1605 SURLYN marketed by E.I. DuPont de Nemours." (Nesbitt, col. 2, ll. 36-38).</p> <p>Sullivan '873 Patent: "Type 1605 SURLYN (now designated SURLYN 8940) ('873 patent, col. 2, ll. 46-47.)</p> <p><b>Molitor '637</b> teaches in TABLE 10 an outer layer made from a thermoplastic polyurethane identified as ESTANE 58133.</p>

Application/Control Number:  
95/000,123  
Art Unit: 3993

Page 149

As mentioned above, Nesbitt references Molitor '637 as describing an number of compositions suitable for the inner cover layer 14. Of particular interest in this case are Examples 1-7 within Molitor '637. Examples 1-7 use a ratio of SURLYN 1605 and SURLYN 1557. The use of SURLYN grades for golf ball covers is also disclosed in U.S. Pat. No. 4,690,981. The preferred composition in the '981 Patent has "from about 5[%] to about 15% by weight of unsaturated carboxylic acid." '981 Pat., col. 3, ll. 59-60. Those of ordinary skill in the art understand that SURLYN 1605 has been "redesignated" as SURLYN 8940 and SURLYN 1557 has been "redesignated" as SURLYN 9650, see e.g. U.S. Pat. No. 4,679,795, col. 6, ll. 10-15 and U.S. Pat. No. 5,150,906, col. 4, ll. 66. Furthermore, the Patent Owner in the Sullivan '873 Patent admitted that SURLYN 1605 is now designated as 8940 and was used in Nesbitt's first (inner) layer and is a sodium ion based low acid "(less than or equal to 15 weight percent methacrylic acid) ionomer resin having a flexural modulus of about 51,000 psi." See '873 Patent, col. 2, ll. 43-50. Moreover, as shown in the "Properties Grid for Selected Industrial Grades of SURLYN" SURLYN 9650's ordinate compared to the other grades of SURLYN is toward the "Low % Acid" side of the graph. Thus, based on this evidence, Nesbitt referencing Molitor '637 inherently teaches using as an inner layer at least one ionomer resin having no more than 16% by weight of alpha, beta-unsaturated carboxylic acid. Also, as mentioned above, Molitor '637 teaches in TABLE 10 an outer layer made from a thermoplastic polyurethane identified as ESTANE 58133. A review of the scientific literature yields that ESTANE 58133 has an inherent Shore D hardness of 55, see Exhibit J "ESTANE 58133 TPU Product Data Sheet". A Shore D hardness of 55 is within the range claimed of Shore D hardness less than 64. Therefore, Molitor '637's teaching of using ESTANE 58133 inherently meets the claim

Application/Control Number:  
95/000,123  
Art Unit: 3993

Page 150

limitation of providing a outer cover layer of polyurethane material having a Shore hardness of less than 64. Nesbitt discloses its outer layer was made from SURLYN 1855 (now SURLYN 9020). This material had inherently flexural modulus of about 14,000 psi and a Shore hardness of 55, see Exhibit I "Typical Properties for Selected Grades of SURLYN". Moreover, as admitted by the inventor Sullivan of the '873 patent, golf ball designers knew that the mechanical properties of the materials used as a golf-ball cover layer were more critical to golf ball performance than the actual materials themselves, see Exhibit G at 334. Thus, because the actual chemical composition of the material is not critical to the practice of the invention with respect to its mechanical performance, i.e. its "click and feel" for a golfer, one of ordinary skill in the art at the time the invention was made would find it obvious to substitute one material for another material if both materials had substantially the same mechanical properties.

In an analogous golf ball, Molitor '751 teaches that:

**It has now been discovered that a key to manufacturing a two-piece ball having playability properties similar to wound, balata-covered balls is to provide about an inner resilient molded core a cover having a shore C hardness less than 85, preferably 70-80, and most preferably 72-76. The novel cover of the golf ball of the invention is made of a composition comprising a blend of (1) a thermoplastic urethane having a shore A hardness less than 95 and (2) an ionomer having a shore D hardness greater than 55.**

(Molitor '751, col. 2, ll.33-49 (emphasis added)).

Moreover, in explaining what constitutes a two-piece golf ball, Molitor '751 teaches that:

**The phrase "two piece ball" as used herein refers primarily to balls consisting of a molded core and a cover, but also includes balls having a separate solid layer beneath the cover as disclosed, for example, in U.S. Pat. No. 4,431,193 to Nesbitt, and other balls have non-wound cores.**

(Molitor '751, col. 3, ll. 7-12 (emphasis added)).

As stated above, Molitor '751 teaches the cover of the golf ball has a Shore C hardness of less than 85, preferably 70-80, most preferably 72-76. As described in Molitor '751's TABLE

Application/Control Number:  
95/000,123  
Art Unit: 3993

Page 151

bridging columns 7 and 8, Sample 8 constitutes one of the preferred embodiments and its cover is taught to have a Shore C hardness of 73. Patent Owner has admitted that a Shore C hardness of 73 is equal to a Shore D hardness of 47, see U.S. Pat. No. 6,905,648, Table 19 (Exhibit L). Thus, a cover having a Shore C hardness of between 72 and 76 will inherently have a Shore D hardness of less than 64.

How one of ordinary skill in the art would discover this inherent mechanical property of Shore D hardness for the polyurethane material used in Molitor '751 is by "translating" a Shore C value to a Shore D value for the polyurethane material. How one of ordinary skill in the art "translates" a Shore C value to a Shore D value is by taking the known Shore hardness values with a given range, in this instance Shore C, for given materials, in this instance polyurethane golf ball covers materials, and taking corresponding measurements with a different set of Shore gauges, in this instance Shore D (but could also be Shore A). A resulting trendline plot occurs from performing this procedure wherein the range of known Shore C values are the abscissa and the range of measured Shore D values are the ordinate. Then, said plot can be use to read equivalent Shore D value for any given Shore C value within the known range of Shore C. This is how one of ordinary skill in the art can know the equivalent Shore D or even Shore A hardness value for any given Shore C hardness value.

As stated in the request on page 21

It would have been obvious to one of ordinary skill in the art at the time of the invention to substitute the soft outer cover layer of Nesbitt and replace it with an outer cover layer made of the soft polyurethane material taught by Molitor '751 to provide a golf ball that includes "playability properties as good or better than balata-covered wound balls but are significantly more durable," and "have better wood playability properties than conventional two-piece balls, and permit

Application/Control Number:  
95/000,123  
Art Unit: 3993

Page 152

experienced golfers to apply spin so as to fade or draw a shot” while having improved puttability. (Molitor ‘751, col. 2, ll. 61-68)

This rejection of claim 6 based on Nesbitt mentioning Molitor ‘637 in view of Molitor ‘751 was proposed by the third party requester in the request for reexamination and is being adopted essentially as proposed in the request.

#### Ground 39: Patent Owner’s Argument

Patent Owner does not specifically argue this rejection. The arguments are the same as those at “Ground 4: Patent Owner’s Argument,” *supra*.

#### Ground 39: Third Party Requester’s Comments

Third Party Requester does not specifically counter argue this rejection. The counter arguments are the same as those at “Ground 4: Third Party Requester’s Comments,” *supra*.

#### Ground 39: Examiner’s Response to the Argument and Comments

Examiner agrees with the general comments of the Third Party Requester, and the rejection of claim 6 under 35 USC 103(a) as being obvious by Nesbitt in view of Molitor ‘637 is maintained. See “Ground 4: Examiner’s Response to the Argument and Comments,” *supra*.

**Proposed third party requester rejection: Ground #40**

Application/Control Number:  
95/000,123  
Art Unit: 3993

Page 153

The requester submits on page 67 that claim 6 is unpatentable under 35 U.S.C. § 103(a) as being obvious over Proudfit, U.S. Pat. No. 5,314,187 (Proudfit) in view of Molitor et al., U.S. Pat. No. 4,274,637 (Molitor '637).

Claim 6 is rejected under 35 U.S.C. § 103(a) as being unpatentable over Proudfit in view of Molitor '637.

The below claim chart identifies the new limitations introduced by dependent claim 6.

Claim 6	Proudfit								
wherein the Shore D hardness of said outer cover layer is less than the Shore D hardness of said inner cover layer.	<p>"The inner layer is formed from hard resin material such as ionomer resin, and the outer layer is formed from a soft material such as balata or a blend of balata and other elastomers." (Proudfit, col. 1, ll. 11-16.)</p> <p>"The composition of the inner cover layer is described in Table 6."</p> <p style="text-align: center;"><b>TABLE 6</b></p> <table border="1"> <thead> <tr> <th colspan="2">Composition of Inner Layer of Cover (Parts by Weight)</th></tr> <tr> <th>Ionomer Type</th><th>Blend Ratio</th></tr> </thead> <tbody> <tr> <td>Eodum- Surlyn 8940</td><td>75%</td></tr> <tr> <td>Zinc- Surlyn 9910</td><td>25%</td></tr> </tbody> </table> <p>(Proudfit, col. 8, ll. 22-30)</p> <p>"...an <b>outer layer of soft material</b> such as balata or a blend of balata and other elastomers." (Proudfit, col. 5, ll. 15-17) This material inherently has a Shore D hardness of less than 64, see the reasoning below.</p>	Composition of Inner Layer of Cover (Parts by Weight)		Ionomer Type	Blend Ratio	Eodum- Surlyn 8940	75%	Zinc- Surlyn 9910	25%
Composition of Inner Layer of Cover (Parts by Weight)									
Ionomer Type	Blend Ratio								
Eodum- Surlyn 8940	75%								
Zinc- Surlyn 9910	25%								

As shown above Proudfit discloses, teaches and suggests a three-piece golf ball (core, inner layer and outer layer) with the layers within the range of claimed thicknesses each layer made from a material having the mechanical properties substantially similar to the claimed mechanical properties. What Proudfit lacks in clearly disclosing are the particular mechanical and chemical properties of the claimed invention. However, Proudfit either incorporates by reference these mechanical and chemical properties and/or the materials used within the Proudfit golf ball inherently have these mechanical and chemical properties. For instance, Proudfit



Application/Control Number:  
95/000,123  
Art Unit: 3993

Page 154

incorporates by reference U.S. Pat. No. 4,690,981 in the background of this invention. (Proudfit, col. 1, ll.39-43). The '981 patent discloses the preferably amount of unsaturated carboxylic acid is "from about 5[%] to about 15% by weight." ('981 Pat, col. 3, ll. 59-60). If Proudfit discloses using blends SURLYN the chemical for making the inner cover and the '981 Patent is the formulation for ionomer known in the art as SURLYN, then inherently grades of SURLYN such as SURLYN 8940 and SURLYN 9910 would be low acid ionomer resins containing no more than 16% by weight of an alpha, beta-unsaturated carboxylic acid. As taught from Exhibit I, SURLYN 8940 has a Shore D hardness of 65; SURLYN 9910 has a Shore D hardness of 64, see Exhibit I. Therefore, this cover blend inherently has a hardness of 60 or more. Proudfit discloses the outer layer being a blend of balata. An example of the blend is disclosed in Table 7 reproduced below.

<b>TABLE 7</b>	
<b>Composition of Outer Layer</b>	
<b>(Parts by Weight)</b>	
Trans Polyisoprene (TP-301)	60.00
Polybutadiene	40.00
Zinc Oxide	1.00
Titanium Dioxide	17.00
Ultramarine Blue color	.50
Zinc DiAcrylate	33.00
Peroxide (Varon 230 XL)	2.50
<b>Total</b>	<b>160.00</b>

Note that Trans PolyIsoprene is basically the chemical name for balata and Polybutadiene is one of the first types of synthetic rubber or elastomer. As described in the Rule 132 Declaration of Edmund A. Hebert, the outer cover layer disclosed in Proudfit is the outer cover layer for the golf ball disclosed in Exhibit A and that cover has a Shore D hardness of 52. Thus, Proudfit's outer layer cover inherently has a Shore hardness of less than 64.

Application/Control Number:  
95/000,123  
Art Unit: 3993

Page 155

This rejection of claim 6 based on Proudfit in view of Molitor '637 was proposed by the third party requester in the request for reexamination and is being adopted essentially as proposed in the request.

#### Ground 40: Patent Owner's Argument

Patent Owner does not specifically argue this rejection. The arguments are the same as those at "Ground 5: Patent Owner's Argument," *supra*.

#### Ground 40: Third Party Requester's Comments

Third Party Requester does not specifically counter argue this rejection. The counter arguments are the same as those at "Ground 5: Third Party Requester's Comments," *supra*.

#### Ground 40: Examiner's Response to the Argument and Comments

Examiner agrees with the general comments of the Third Party Requester, and the rejection of claim 6 under 35 USC 103(a) as being obvious by Nesbitt in view of Molitor '637 is maintained. See "Ground 5: Examiner's Response to the Argument and Comments," *supra*.

#### **Proposed third party requester rejection: Ground #41**

The requester submits on page 67 that claim 6 is unpatentable under 35 U.S.C. § 103(a) as being obvious over Proudfit, U.S. Pat. No. 5,314,187 (Proudfit) in view of Wu, U.S. Pat. No. 5,334,673 (Wu).

Application/Control Number:  
95/000,123  
Art Unit: 3993

Page 156

Claim 6 is rejected under 35 U.S.C. § 103(a) as being unpatentable over Proudfit in view of Wu, as evidenced by Exhibit C.

The below claim chart identifies the new limitations introduced by dependent claim 6.

Claim 6	Proudfit								
wherein the Shore D hardness of said outer cover layer is less than the Shore D hardness of said inner cover layer.	<p>"The inner layer is formed from hard resin material such as ionomer resin, and the outer layer is formed from a soft material such as balata or a blend of balata and other elastomers." (Proudfit, col. 1, ll. 11-16.)</p> <p>"The composition of the inner cover layer is described in Table 6."</p> <p style="text-align: center;"><b>TABLE 6</b></p> <table border="1"> <thead> <tr> <th colspan="2">Composition of Inner Layer of Cover (Parts by Weight)</th></tr> <tr> <th>Ionomer Type</th><th>Blend Ratio</th></tr> </thead> <tbody> <tr> <td>Sodium- Surlyn 8940</td><td>75%</td></tr> <tr> <td>Zinc- Surlyn 9910</td><td>25%</td></tr> </tbody> </table> <p>(Proudfit, col. 8, ll. 22-30)</p> <p>"...an <b>outer layer of soft material</b> such as balata or a blend of balata and other elastomers." (Proudfit, col. 5, ll. 15-17) This material inherently has a Shore D hardness of less than 64, see the reasoning below.</p>	Composition of Inner Layer of Cover (Parts by Weight)		Ionomer Type	Blend Ratio	Sodium- Surlyn 8940	75%	Zinc- Surlyn 9910	25%
Composition of Inner Layer of Cover (Parts by Weight)									
Ionomer Type	Blend Ratio								
Sodium- Surlyn 8940	75%								
Zinc- Surlyn 9910	25%								

As shown above Proudfit discloses, teaches and suggests a three-piece golf ball (core, inner layer and outer layer) with the layers within the range of claimed thicknesses each layer made from a material having the mechanical properties substantially similar to the claimed mechanical properties. What Proudfit lacks in clearly disclosing are the particular mechanical and chemical properties of the claimed invention. Proudfit teaches a golf ball have a two-piece cover including a hard, ionomeric inner cover layer and a soft balata blend outer cover layer. Proudfit lacks in disclosing the use of polyurethane as the material for the outer cover layer. Instead, as shown in Table 7, reproduced below, Proudfit discloses the outer cover layer being made of a blend of balata.

Application/Control Number:  
95/000,123  
Art Unit: 3993

Page 157

TABLE 7	
Composition of Outer Layer (Parts by Weight)	
Trans Polyisoprene (TP-301)	60.00
Polybutadiene	40.00
Zinc Oxide	1.00
Titanium Dioxide	17.00
Ultramarine Blue color	.50
Zinc DiAcrylate	33.00
Peroxide (Varon 230 XL)	1.50
Total	160.00

However, those skilled in the art understand the disadvantages of balata covered golf balls. As admitted by the patent owner

[d]espite all the benefits of balata, balata covered golf balls are easily cut and/or damaged if mis-hit. Golf balls produced with balata or balata-containing cover compositions therefore have a relatively short lifespan.

(Sullivan '873, col. 1, ll. 39-42). The next step in golf ball cover technology to overcome the problems with balata was the use of SURLYN as an outer cover. However, as described in the request on page 26 Wu teaches the problem with SURLYN as a outer cover on a golf ball.

**The problem with SURLYN covered golf balls ... is that they lack the "click" and "feel" which golfers had become accustomed to with balata. "Click" is the sound when the ball is hit by a golf club and "feel" is the overall sensation imparted to the golfer when the ball is hit.**

It has been proposed to employ polyurethane as a cover stock for golf balls because, like SURLYN, it has a relatively low price compared to balata and provides superior cut resistance over balata. **However, unlike SURLYN covered golf balls, polyurethane-covered golf balls can be made to have the "click" and "feel" of balata.**

(Wu col. 1, ll. 36-46 (emphasis added)).

As explained in the request on page 26, line 22 through page 27, line 27 those skilled in the art at the time the claimed invention was made were more critical of the mechanical properties of the materials that constructed the layers which impacted the performance of the golf ball more than the materials themselves. See Exhibit G. As identified above Proudfit lacks disclosing polyurethane as the outer cover layer. In analogous golf ball device, Wu's polyurethane material inherently has a flexural modulus of 23,000 psi as averred within the Rule

Application/Control Number:  
95/000,123  
Art Unit: 3993

Page 158

132 Declaration of Jeffrey L. Dalton at para. 7. Proudfit's outer cover layer material is disclosed as having a flexural modulus of between about 20,000 psi and 25,000 psi. (Proudfit, col. 6, ll. 28-31) Thus, Wu's cover material's flexural modulus falls within the range of Proudfit's cover material. Moreover, Wu's polyurethane material inherently has a Shore D hardness of about 58. See Decl. of Dalton at para. 6. Thus, as evidenced by this declaration, Wu's polyurethane material falls within the claimed range of the outer layer material have a Shore D hardness of less than 64.

Thus, as pointed out in the request on page 27, lines 3-18, one of ordinary skill in the art at the time the invention was made would find it obvious to substitute Wu's polyurethane golf ball cover material for Proudfit's balata-blend cover material for the advantages described in this part of the request which are incorporated herein.

This rejection of claim 6 based on Proudfit in view of Wu as evidenced by Exhibit C was proposed by the third party requester in the request for reexamination and is being adopted essentially as proposed in the request.

#### Ground 41: Patent Owner's Argument

Patent Owner does not specifically argue this rejection. The arguments are the same as those at "Ground 6: Patent Owner's Argument," *supra*.

#### Ground 41: Third Party Requester's Comments

Third Party Requester does not specifically counter argue this rejection. The counter arguments are the same as those at "Ground 6: Third Party Requester's Comments," *supra*.

Application/Control Number:  
95/000,123  
Art Unit: 3993

Page 159

#### Ground 41: Examiner's Response to the Argument and Comments

Examiner agrees with the general comments of the Third Party Requester, and the rejection of claim 6 under 35 USC 103(a) as being obvious by Nesbitt in view of Molitor '637 is maintained. See "Ground 6: Examiner's Response to the Argument and Comments," *supra*.

#### Proposed third party requester rejection: Ground #42

The requester submits on page 67 that claim 6 is unpatentable under 35 U.S.C. § 103(a) as being obvious over Proudfit, U.S. Pat. No. 5,314,187 (Proudfit) in view of Molitor et al., U.S. Pat. No. 4,674,751 (Molitor '751).

Claim 6 is rejected under 35 U.S.C. § 103(a) as being unpatentable over Proudfit in view of Molitor '751.

The below claim chart identifies the new limitations introduced by dependent claim 6.

Claim 6	Proudfit								
wherein the Shore D hardness of said outer cover layer is less than the Shore D hardness of said inner cover layer.	<p>"The inner layer is formed from hard resin material such as ionomer resin, and the outer layer is formed from a soft material such as balata or a blend of balata and other elastomers." (Proudfit, col. 1, ll. 11-16.)</p> <p style="text-align: center;"><b>TABLE 6</b></p> <table border="1"> <thead> <tr> <th colspan="2">Composition of Inner Layer of Cover (Parts by Weight)</th></tr> <tr> <th>Ionomer Type</th><th>Blend Ratio</th></tr> </thead> <tbody> <tr> <td>Sodium- Surlyn 8940</td><td>75%</td></tr> <tr> <td>Zinc- Surlyn 9910</td><td>25%</td></tr> </tbody> </table> <p>"The composition of the inner cover layer is described in Table 6."</p> <p>(Proudfit, col. 8, ll. 22-30)</p> <p>"...an outer layer of soft material such as balata or a blend of balata and other elastomers." (Proudfit, col. 5, ll. 15-17) This material inherently has a Shore D hardness of less than 64, see the reasoning below.</p>	Composition of Inner Layer of Cover (Parts by Weight)		Ionomer Type	Blend Ratio	Sodium- Surlyn 8940	75%	Zinc- Surlyn 9910	25%
Composition of Inner Layer of Cover (Parts by Weight)									
Ionomer Type	Blend Ratio								
Sodium- Surlyn 8940	75%								
Zinc- Surlyn 9910	25%								

Application/Control Number:  
95/000,123  
Art Unit: 3993

Page 160

As shown above Proudfit discloses, teaches and suggests a three-piece golf ball (core, inner layer and outer layer) with the layers within the range of claimed thicknesses each layer made from a material having the mechanical properties substantially similar to the claimed mechanical properties. What Proudfit lacks in clearly disclosing are the particular mechanical and chemical properties of the claimed invention. However, Proudfit either incorporates by reference these mechanical and chemical properties and/or the materials used within the Proudfit golf ball inherently have these mechanical and chemical properties. For instance, Proudfit incorporates by reference U.S. Pat. No. 4,690,981 in the background of this invention. (Proudfit, col. 1, ll.39-43). The '981 patent discloses the preferably amount of unsaturated carboxylic acid is "from about 5[%] to about 15% by weight." ('981 Pat, col. 3, ll. 59-60). If Proudfit discloses using blends SURLYN the chemical for making the inner cover and the '981 Patent is the formulation for ionomer known in the art as SURLYN, then inherently grades of SURLYN such as SURLYN 8940 and SURLYN 9910 would be low acid ionomer resins containing no more than 16% by weight of an alpha, beta-unsaturated carboxylic acid. As taught from Exhibit I, SURLYN 8940 has a Shore D hardness of 65; SURLYN 9910 has a Shore D hardness of 64, see Exhibit I. Therefore, this cover blend inherently has a hardness of 60 or more. Proudfit discloses the outer layer being a blend of balata. An example of the blend is disclosed in Table 7 reproduced below.

Application/Control Number:  
95/000,123  
Art Unit: 3993

Page 161

TABLE 7	
Composition of Outer Layer (Parts by Weight)	
Trans Polyisoprene (TP-301)	60.00
Polybutadiene	40.00
Zinc Oxide	5.00
Titanium Dioxide	17.00
Ultramarine Blue color	.50
Zinc DiAcrylate	35.00
Peroxide (Varon 230 XL)	2.50
Total	160.00

Note that Trans PolyIsoprene is basically the chemical name for balata and Polybutadiene is one of the first types of synthetic rubber or elastomer. As described in the Rule 132 Declaration of Edmund A. Hebert, the outer cover layer disclosed in Proudfit is the outer cover layer for the golf ball disclosed in Exhibit A and that cover has a Shore D hardness of 52. Thus, Proudfit's outer layer cover inherently has a Shore hardness of less than 64.

Also, as expressed in the request on page 26 and identified above within the claim chart, Proudfit teaches a golf ball have a two-piece cover including a hard, ionomeric inner cover layer and a soft balata blend outer cover layer. Proudfit lacks in disclosing the use of polyurethane as the material for the outer cover layer. Instead, as shown in Table 7, reproduced below, Proudfit discloses the outer cover layer being made of a blend of balata.

TABLE 7	
Composition of Outer Layer (Parts by Weight)	
Trans Polyisoprene (TP-301)	60.00
Polybutadiene	40.00
Zinc Oxide	5.00
Titanium Dioxide	17.00
Ultramarine Blue color	.50
Zinc DiAcrylate	35.00
Peroxide (Varon 230 XL)	2.50
Total	160.00

However, those skilled in the art understand the disadvantages of balata covered golf balls. As admitted by the patent owner



Application/Control Number:  
95/000,123  
Art Unit: 3993

Page 162

Despite all the benefits of balata, balata covered golf balls are easily cut and/or damaged if mis-hit. Golf balls produced with balata or balata-containing cover compositions therefore have a relatively short lifespan.

(Sullivan '873, col. 1, ll. 39-42). With this disadvantage of balata covered golf balls, golf ball designers looked for materials that would provide the same "click" and "feel" golfers expected and have increased durability.

As pointed out in the request on page 28, lines 4-15, in an analogous golf ball, Molitor '751 teaches that:

It has now been discovered that a key to manufacturing a two-piece ball having playability properties similar to wound, balata-covered balls is to provide about an inner resilient molded core a cover having a shore C hardness less than 85, preferably 70-80, and most preferably 72-76. The novel cover of the golf ball of the invention is made of a composition comprising a blend of (1) a thermoplastic urethane having a shore A hardness less than 95 and (2) an ionomer having a shore D hardness greater than 55. The ionomer comprises olefinic groups having two to four carbon atoms copolymerized with acrylic or methacrylic acid groups and cross-linked with metal ions, preferably sodium or zinc ions. **The primary components of the blended cover are set at a weight ratio so as to result in a cover material after molding having a shore C hardness within the range of 70 to 85, preferably 72 to 76.** Preferably, the urethane component of the cover material has a tensile strength greater than 2500 psi and an elongation at break greater than 250%. A preferred cover material comprises about 8 parts of the thermoplastic urethane and between 1 and 4 parts ionomer. Preferably, the cover is no greater than 0.060 inch thick. Thinner covers appear to maximize the short iron playability characteristics of the balls.

(Molitor '751, col. 33-57 (emphasis added)). Thus, Molitor '751 teaches having a outer cover layer with a Shore C hardness less than 85 and preferably between 72 and 76. Moreover, Molitor '751 teaches what golf balls are included in the definition of "two-piece" ball within its instant specification.

The phrase "two-piece ball" as used herein refers primarily to balls consisting of a molded core and a cover, but also includes balls having a separate solid layer beneath the cover as disclosed, for example, in U.S. Pat. No. 4,431,193 to Nesbitt, and other balls having non-wound cores.

Molitor '751, col. 3, ll. 7-12 (emphasis added)). Proudfit, likewise, teaches the two-piece golf balls can fit within this definition.

Application/Control Number:  
95/000,123  
Art Unit: 3993

Page 163

FIG. 1 illustrates a two-piece golf ball 10 which includes a solid core 11 and a cover 12 which comprises a relatively hard inner layer 13 of one or more ionomer resins and a relatively soft outer layer 14 of polymeric material.

(Proudfit, col. 7, ll. 21-24).

As stated above, Molitor '751 teaches the cover of the golf ball has a Shore C hardness of less than 85, preferably 70-80, most preferably 72-76. As described in Molitor '751's TABLE bridging columns 7 and 8, Sample 8 constitutes one of the preferred embodiments and its cover is taught to have a Shore C hardness of 73. Patent Owner has admitted that a Shore C hardness of 73 is equal to a Shore D hardness of 47, see U.S. Pat. No. 6,905,648, Table 19 (Exhibit L). Thus, a cover having a Shore C hardness of between 72 and 76 will inherently have a Shore D hardness of less than 64.

How one of ordinary skill in the art would discover this inherent mechanical property of Shore D hardness for the polyurethane material used in Molitor '751 is by "translating" a Shore C value to a Shore D value for the polyurethane material. How one of ordinary skill in the art "translates" a Shore C value to a Shore D value is by taking the known Shore hardness values with a given range, in this instance Shore C, for given materials, in this instance a polyurethane golf ball covers materials, and taking corresponding measurements with a different set of Shore gauges, in this instance Shore D (but could also be Shore A). A resulting trendline plot occurs from performing this procedure wherein the range of known Shore C values are the abscissa and the range of measured Shore D values are the ordinate. Then, said plot can be use to read equivalent Shore D value for any given Shore C value within the known range of Shore C. This is how one of ordinary skill in the art can know the equivalent Shore D or even Shore A hardness value for any given Shore C hardness value.

Application/Control Number:  
95/000,123  
Art Unit: 3993

Page 164

As stated in the request on page 29

Therefore, it would have been obvious to one of ordinary skill in the art at the time of the invention to substitute the soft outer cover layer of Nesbitt and replace it with an outer cover layer made of the soft polyurethane material taught by Molitor '751 to provide a golf ball that includes "playability properties as good or better than balata-covered wound balls but are significantly more durable," and "have better wood playability properties than conventional two-piece balls, and permit experienced golfers to apply spin so as to fade or draw a shot" while having improved puttability. (Molitor '751, col. 2, ll. 61-68)

This rejection of claim 6 based on Proudfit in view of Molitor '751 was proposed by the third party requester in the request for reexamination and is being adopted essentially as proposed in the request.

#### Ground 42: Patent Owner's Argument

Patent Owner does not specifically argue this rejection. The arguments are the same as those at "Ground 7: Patent Owner's Argument," *supra*.

#### Ground 42: Third Party Requester's Comments

Third Party Requester does not specifically counter argue this rejection. The counter arguments are the same as those at "Ground 7: Third Party Requester's Comments," *supra*.

#### Ground 42: Examiner's Response to the Argument and Comments

Examiner agrees with the general comments of the Third Party Requester, and the rejection of claim 6 under 35 USC 103(a) as being obvious by Nesbitt in view of Molitor

Application/Control Number:  
95/000,123  
Art Unit: 3993

Page 165

'637 is maintained. See "Ground 7: Examiner's Response to the Argument and Comments," *supra*.

### **Unexpected Results and Commercial Success**

#### **Patent Owner's Argument**

Besides arguing the outstanding rejections of individual claims as explained *supra*, the Patent Owner argues generally for non-obviousness of the invention based on unexpected results and commercial success (*see* Patent Owner's Response at pages 6-9). The crux of the argument is that, although the instant invention is made of individual elements known in the art, the unique combination of elements of the claimed invention results in a golf ball with excellent ""distance"" and ""feel"" (Patent Owner's Response at page 7). Consequently, golf balls within the ambit of the claimed invention (*i.e.*, the Rule 35 ball of the Patent Owner and the Pro V1 of the Third Party Requester) have great commercial success. Hence, the "[u]nexpected and overwhelming success of Mr. Sullivan's golf ball technology thus demonstrates that his invention was not simply the predictable result of combining known materials, but in fact represented the best solution even conceived for the distance-versus-control problem" (Patent Owner's Response at page 9).

#### **Third Party Requester's Comments**

The Third Party Requester comments that: (1) the Sullivan '103 patent does not disclose or suggest the Pro V1 because the Pro V1 has a construction different in several aspects (*e.g.*, core size) from the ball disclosed in the Sullivan '130 patent (Third Party Requester's Comments

Application/Control Number:  
95/000,123  
Art Unit: 3993

Page 166

at middle of page 35 to bottom of page 37); (2) there is no nexus between the commercial success of the Third Party Requester's Pro V1 and the Sullivan '130 patent because the Pro V1's success rests upon specific types of advertising (Third Party Requester's Comments at bottom of page 37 to middle of page 40) along with different technology (Third Party Requester's Comments at middle of page 40 to bottom of page 42); (3) many golf balls purport to have solved the distance and "feel" problem (Third Party Requester's Comments at bottom of page 43 top of page 45); and, (4) even though there were other three-piece, polyurethane balls available, there was little demand for the ball on the PGA tour until shortly before the introduction of the Pro V1 (Third Party Requester's Comments at page 45 to page 46).

#### Examiner's Response to the Argument and Comments

Examiner generally agrees with the comments of the Third Party Requester and finds the arguments of the Patent Owner of unexpected results and commercial success to be unpersuasive.

As a preliminary matter, the argument(s) presented for secondary considerations presented by the Patent Owner are not relevant to the rejections made under 35 USC 102 (*see* MPEP 2131.04). Thus only the rejections under 35 USC 103 are considered.

To show unexpected results (*i.e.*, unique and excellent combination of distance and "feel") the Patent Owner uses testimonial-type evidence of statements, or endorsements, by well known golfers such as Arnold Palmer (Patent Owner's Response at bottom on page 8). Examiner considers this to be opinion evidence because the statements are not accompanied by objective data. Due to this lack of objective data, the probative value of the presented opinion

Application/Control Number:  
95/000,123  
Art Unit: 3993

Page 167

evidence is not sufficient to overcome the *prima facie* rejections, *supra*, maintained in this office action.

The evidence of commercial success proffered by the Patent Owner is similarly testimonial in nature (*e.g.*, “Pro V1 is the “most successful golf ball in the history of the golf industry . . .”” citing an article in the Golf Gazette). Again no objective data is presented as support. With no objective data, the probative value of the presented evidence is again not sufficient to overcome the *prima facie* rejections, *supra*, maintained in this office action.

As to the comments of the Third Party Requester concerning, *inter alia*, the scope of the claims of the Sullivan ‘130 patent and its nexus with the Pro V1, the Examiner did not evaluate these comments since the secondary considerations presented by the Patent Owner were not found sufficient for the reasons given immediately above.

#### **Shore D hardness value measured on the ball**

##### **Patent Owner’s Argument**

Besides arguing the outstanding rejections of individual claims as explained *supra* and commercial success *id.*, the Patent Owner argues that the claims in the instant patent require the Shore D hardness value’s of the cover layers to be measured “on the ball” (Patent Owner’s Response at pages 10-12). Since the two base references (Nesbitt and Proudfit) do not disclose measuring hardness “on the ball” for their covers, the outstanding rejections are flawed (Patent Owner’s Response at pages 12-13).

Application/Control Number:  
95/000,123  
Art Unit: 3993

Page 168

### Third Party Requester's Comments

The Third Party Requester comments that: (1) in a reexamination claims are given their broadest reasonable interpretation consistent with the specification, and, here, "on the ball" is too narrow a construction (Third Party Requester's Comments at page 7); (2) the specification of the instant patent clearly states at col. 16, lines 15-16, that "Shore hardness was measured in accordance with ASTM test 2240" which calls for "off the ball" testing (Third Party Requester's Comments at page 8); (3) the Patent Owner knew how to claim "on the ball" because in a sister patent the language of "as measured on the curved surface thereof" is explicitly used (Third Party Requester's Comments at bottom of page 9 to middle of page 10); and, (4) even if measured "on the ball" the prior art is still good because measuring Shore D hardness "on the ball" does not affect the disclosed values enough to make the instant patent's claims patentable over the prior art (Third Party Requester's Comments at bottom of page 10 to page 13).

### Examiner's Response to the Argument and Comments

Examiner generally agrees with the comments of the Third Party Requester and finds the arguments of the Patent Owner concerning measuring of hardness "on the ball" to be unpersuasive.

The rule is that "[d]uring reexamination claims are given the broadest reasonable interpretation consistent with the specification" (MPEP 2658(I) and 2258(I)(G)). Here, the claims are silent as to whether the Shore D hardness value is measure "on the ball" or not. In the specification, hardness measurements are disclosed at col. 7, lines 12-14, and col. 16, lines 1-16, and are to be conducted "in accordance with ASTM method D-2240." ASTM D-2240's method

Application/Control Number:

Page 169

95/000,123

Art Unit: 3993

of testing uses a specimen of material, and are not measured "on the ball" (Exhibit C). To be consistent with the specification, then, the claims in the instant patent do not require a Shore hardness value measured "on the ball."



Application/Control Number:  
95/000,123  
Art Unit: 3993

Page 170

***Correspondence***

All correspondence relating to this *inter partes* reexamination proceeding should be directed as follows:

**By U.S. Postal Service Mail to:**

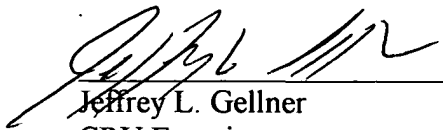
Mail Stop *Inter Partes* Reexam  
ATTN: Central Reexamination Unit  
Commissioner for Patents  
P.O. Box 1450  
Alexandria, VA 22313-1450

By FAX to: (571) 273-9900  
Central Reexamination Unit

By hand to: Customer Service Window  
ATTN: Central Reexamination Unit  
Randolph Building  
401 Dulany St.  
Alexandria, VA 22314

Any inquiry concerning this communication or earlier communications from the Examiner, or as to the status of this proceeding, should be directed to the Central Reexamination Unit at telephone number (571) 272-7705.

Signed:

  
\_\_\_\_\_  
Jeffrey L. Gellner  
CRU Examiner  
GAU 3993

conferees:


# **EXHIBIT 3**



United States Patent and Trademark Office

[Home](#) | [Site Index](#) | [Search](#) | [FAQ](#) | [Glossary](#) | [Guides](#) | [Contacts](#) | [eBusiness](#) | [eBiz Alerts](#) | [News](#) | [Help](#)

[Portal Home](#) | [Patents](#) | [Trademarks](#) | [Other](#)

Patent eBusiness

- [Electronic Filing](#)
- [Patent Application Information \(PAIR\)](#)
- [Patent Ownership](#)
- [Fees](#)
- [Supplemental Resources & Support](#)

Patent Information

- [Patent Guidance and General Info](#)
- [Codes, Rules & Manuals](#)
- [Employee & Office Directories](#)
- [Resources & Public Notices](#)

Patent Searches

- [Patent Official Gazette](#)
- [Search Patents & Applications](#)
- [Search Biological Sequences](#)
- [Copies, Products & Services](#)

Other

- [Copyrights](#)
- [Trademarks](#)
- [Policy & Law](#)
- [Reports](#)

Patent Application Information Retrieval

[Order Certified Application As Filed](#) [Order Certified File Wrapper](#) [View Order List](#)

09/873,594 **Golf ball having multi-layer cover with unique inner cover characteristics**

Select New Case	Application Data	Transaction History	Continuity Data	Published Documents	Address & Attorney/Agent
-----------------	------------------	---------------------	-----------------	---------------------	--------------------------

Bibliographic Data

Application Number:	09/873,594	Customer Number:	-
Filing or 371 (c) Date:	06-04-2001	Status:	Abandoned -- Failure to Respond to an Office Action
Application Type:	Utility	Status Date:	04-19-2004
Examiner Name:	TRIMIEW, RAEANN	Location:	RECORD ROOM 308-2733
Group Art Unit:	3711	Location Date:	01-18-2008
Confirmation Number:	5315	Earliest Publication No:	US 2001-0039219 A1
Attorney Docket Number:	P-3724-F1-C1-C2	Earliest Publication Date:	11-08-2001
Class / Subclass:	473/374	Patent Number:	-
First Named Inventor:	Michael Sullivan , Barrington, RI	Issue Date of Patent:	-

Title of Invention: Golf ball having multi-layer cover with unique inner cover characteristics

If you need help:

- Call the Patent Electronic Business Center at (866) 217-9197 (toll free) or e-mail [EBC@uspto.gov](mailto:EBC@uspto.gov) for specific questions about Patent Application Information Retrieval (PAIR).
- Send general questions about USPTO programs to the [USPTO Contact Center \(UCC\)](#).
- If you experience technical difficulties or problems with this application, please report them via e-mail to [Electronic Business Support](#) or call 1 800-786-9199.

You can suggest USPTO webpages or material you would like featured on this section by E-mail to the [webmaster@uspto.gov](mailto:webmaster@uspto.gov). While we cannot promise to accommodate all requests, your suggestions will be considered and may lead to other improvements on the website.

[Home](#) | [Site Index](#) | [Search](#) | [eBusiness](#) | [Help](#) | [Privacy Policy](#)



## United States Patent and Trademark Office

[Home](#) | [Site Index](#) | [Search](#) | [FAQ](#) | [Glossary](#) | [Guides](#) | [Contacts](#) | [eBusiness](#) | [eBiz Alerts](#) | [News](#) | [Help](#)[Portal Home](#) | [Patents](#) | [Trademarks](#) | [Other](#)

## Patent eBusiness



## Patent Application Information Retrieval



- [Electronic Filing](#)
- [Patent Application Information \(PAIR\)](#)
- [Patent Ownership](#)
- [Fees](#)
- [Supplemental Resources & Support](#)

## Patent Information

## Patent Guidance and General Info

- [Codes, Rules & Manuals](#)
- [Employee & Office Directories](#)
- [Resources & Public Notices](#)

## Patent Searches

## Patent Official Gazette

- [Search Patents & Applications](#)
- [Search Biological Sequences](#)
- [Copies, Products & Services](#)

## Other

- [Copyrights](#)
- [Trademarks](#)
- [Policy & Law](#)
- [Reports](#)

[Order Certified Application As Filed](#) [Order Certified File Wrapper](#) [View Order List](#)

09/873,594

Golf ball having multi-layer cover with unique inner cover characteristics



Select New Case	Application Data	Transaction History	Continuity Data	Published Documents	Address & Attorney/Agent
-----------------	------------------	---------------------	-----------------	---------------------	--------------------------

## Parent Continuity Data

Description	Parent Number	Parent Filing or 371(c) Date	Parent Status	Patent Number
This application is a Continuation of	<a href="#">09/776,278</a>	02-02-2001	Patented	<a href="#">6,595,873</a>
is a continuation of	<a href="#">09/470,196</a>	12-21-1999	Patented	<a href="#">6,210,293</a>
is a continuation of	<a href="#">08/870,585</a>	06-06-1997	Abandoned	-
is a continuation of	<a href="#">08/556,237</a>	11-09-1995	Abandoned	-
is a Continuation-in-part of	<a href="#">08/070,510</a>	06-01-1993	Abandoned	-

## Child Continuity Data

No Child Continuity Data Found

If you need help:

- Call the Patent Electronic Business Center at (866) 217-9197 (toll free) or e-mail [EBC@uspto.gov](mailto:EBC@uspto.gov) for specific questions about Patent Application Information Retrieval (PAIR).
- Send general questions about USPTO programs to the [USPTO Contact Center \(UCC\)](#).
- If you experience technical difficulties or problems with this application, please report them via e-mail to [Electronic Business Support](#) or call 1 800-786-9199.

You can suggest USPTO webpages or material you would like featured on this section by E-mail to the [webmaster@uspto.gov](mailto:webmaster@uspto.gov). While we cannot promise to accommodate all requests, your suggestions will be considered and may lead to other improvements on the website.

[Home](#) | [Site Index](#) | [Search](#) | [eBusiness](#) | [Help](#) | [Privacy Policy](#)

# **EXHIBIT 4**

# **Callaway Golf v. Acushnet**

## **Callaway Golf's Opening Statement**

## **Mike Yagley – Golf Ball R&D at Callaway Golf**



- Vice President of Product Management at Callaway Golf**
- Came to Callaway Golf in 1997 to work on golf ball development**
- Led golf ball research and development team at Callaway Golf**

# Callaway Golf



- Founded by Ely Callaway in 1982
- Headquartered in Carlsbad, California
- 2600+ employees
- Launched Big Bertha driver in 1991
- Premier manufacturer of golf clubs in the world



# Callaway Golf



- Decided in 1996 to make golf balls
- Started R&D from scratch
- Introduced the Rule 35 golf ball in January 2000
  - Solid core, ionomer inner cover, polyurethane outer cover
  - Received critical acclaim
- Bought Spalding's golf business, Top-Flite, including all patents, in 2003

# Callaway Golf Ball Introductions

Jan. 2000



Rule 35 Red

Oct. 2001



CTU 30 Red

Mar. 2002



HX Red

2004-2005



HX Tour



Rule 35 Blue



CTU 30 Blue



HX Blue



HX Tour 56

# Callaway Golf – Key Events

**1982**

Ely Callaway buys into  
Hickory Stick, USA

**1984**

Company renamed as  
Callaway Hickory Stick



**1989**

Company name is  
changed to **Callaway  
Golf Company**



**1980s**

**1991**

Callaway **Big Bertha**  
driver is introduced



**1996**

Callaway  
Golf Ball  
Company  
is formed

**1990s**

**2000**

Rule 35  
Balls



**2003**

Callaway  
acquires  
**Top-Flite**



**2000s**

## **Tom Kennedy – Golf Ball Development at Spalding**



- > Senior Vice President, Intellectual Property Development at Callaway Golf**
- > 20+ years in golf ball development at Spalding and Callaway**
- > Worked with Mike Sullivan at Spalding**
- > Working at Callaway Golf since 2003**

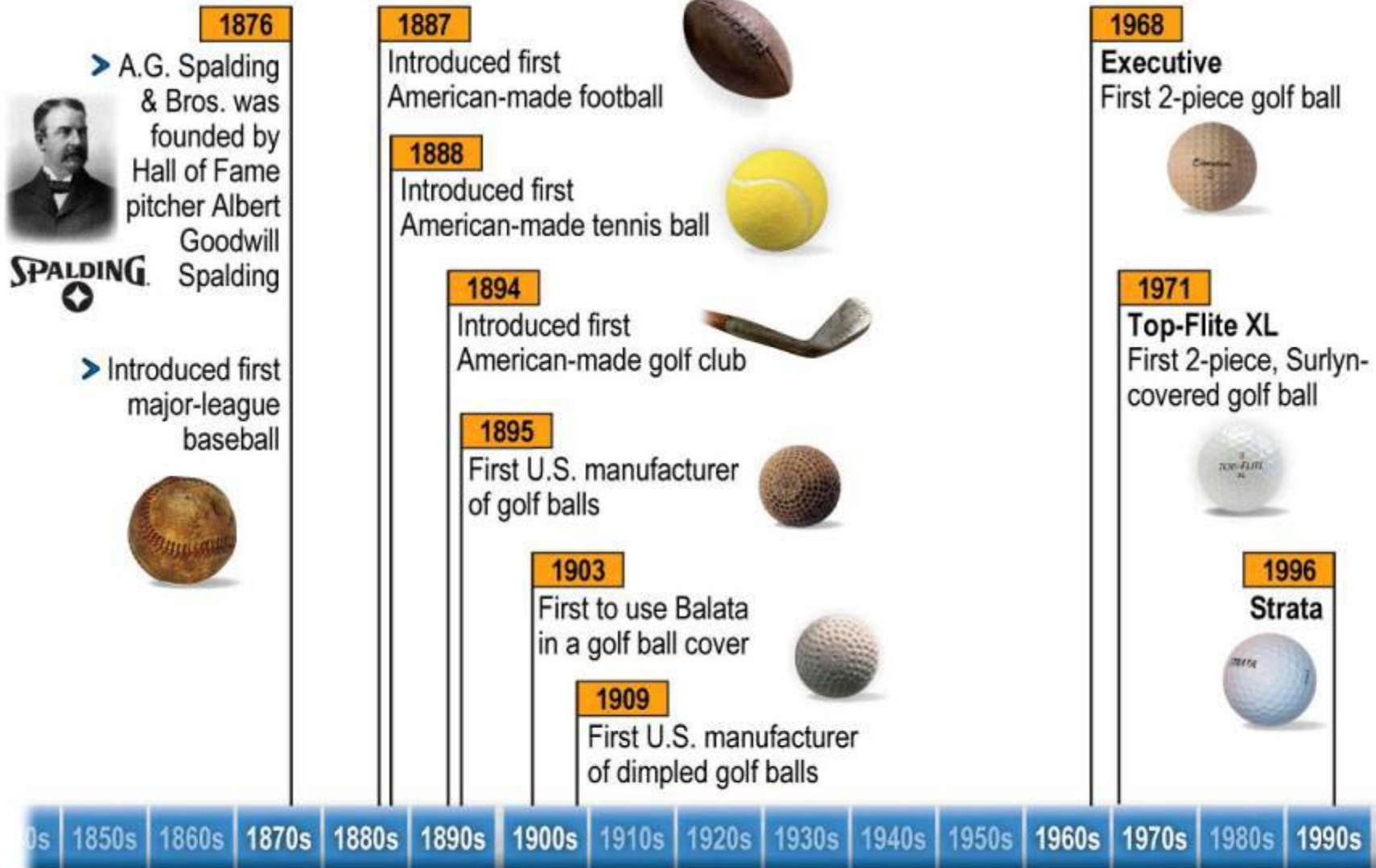


# Spalding Owned the Sullivan Patents

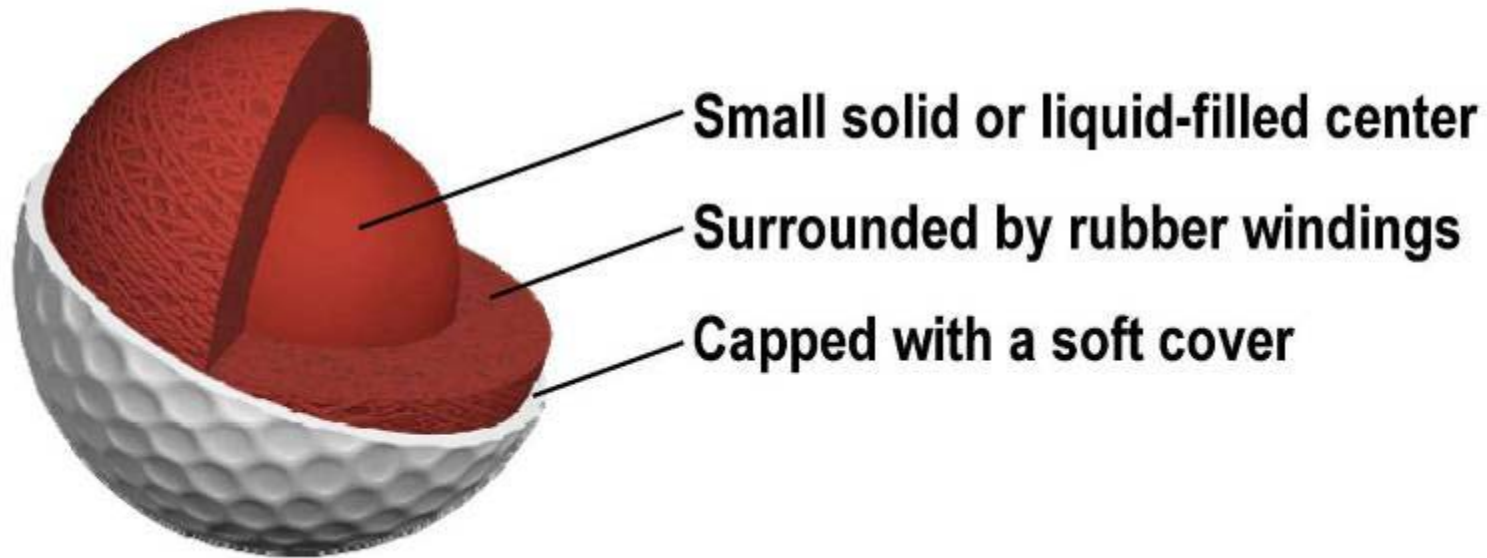


- One of earliest and best known sporting goods companies
- Manufactured golf balls sold under Top-Flite brand
- Technology leader in golf balls since the 1960s
- Built on work of Sullivan, Nesbitt, Molitor and others
- Competed with Acushnet for years

# Spalding Company Timeline



## Prior Art: Wound Golf Balls

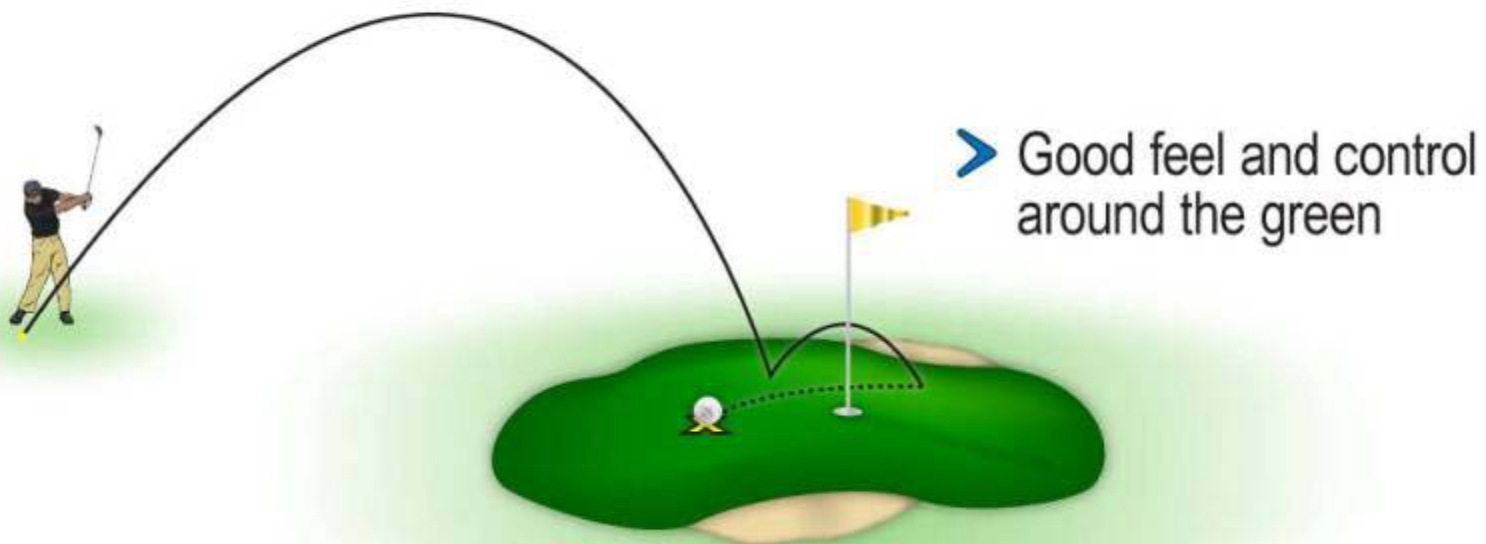


- Advantage: Soft cover provides superior spin and “feel”
- Disadvantage: Less distance; easily cut
- Was popular with professionals, not with amateurs
- Examples: Titleist Professional, Titleist Tour Prestige

## Wound Ball - Balata Cover

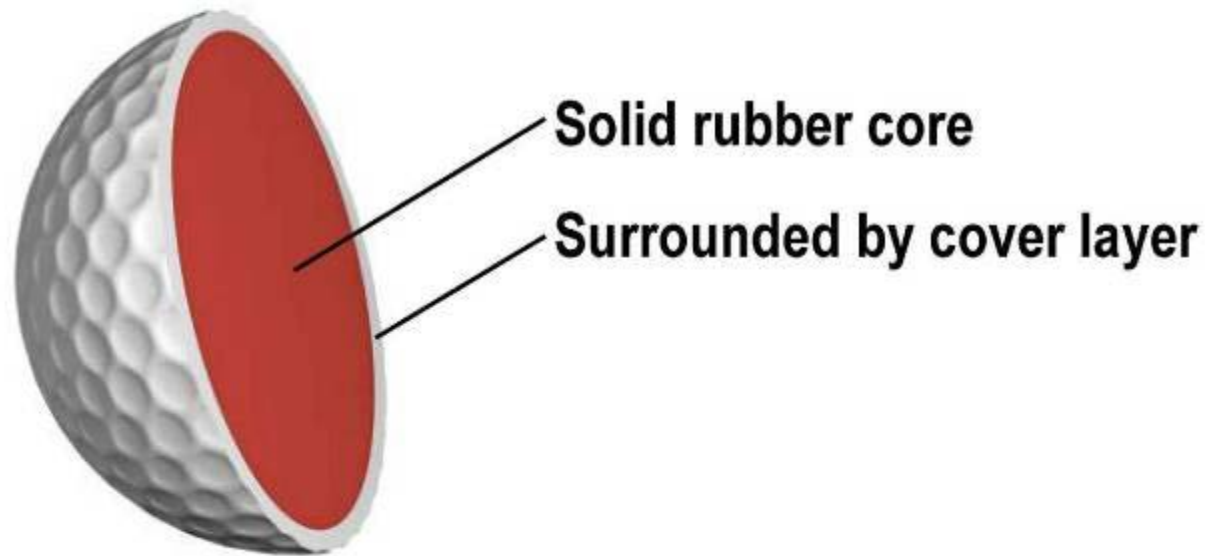


➤ Short driving distance



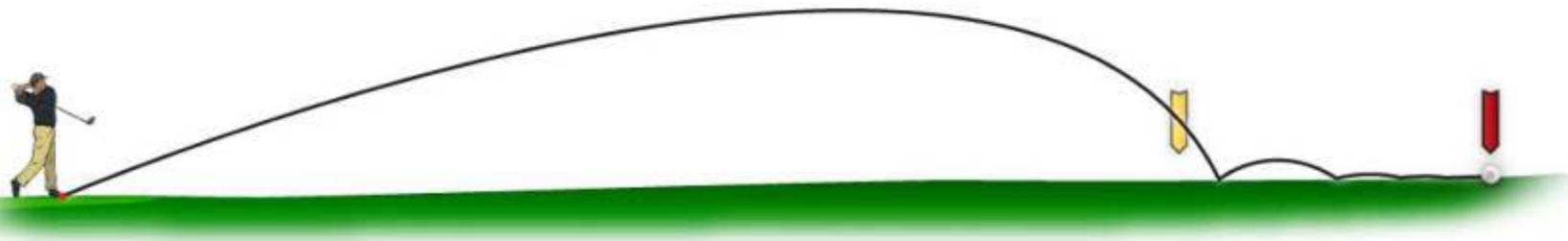


## Prior Art: Two-Piece Solid-Core Golf Balls

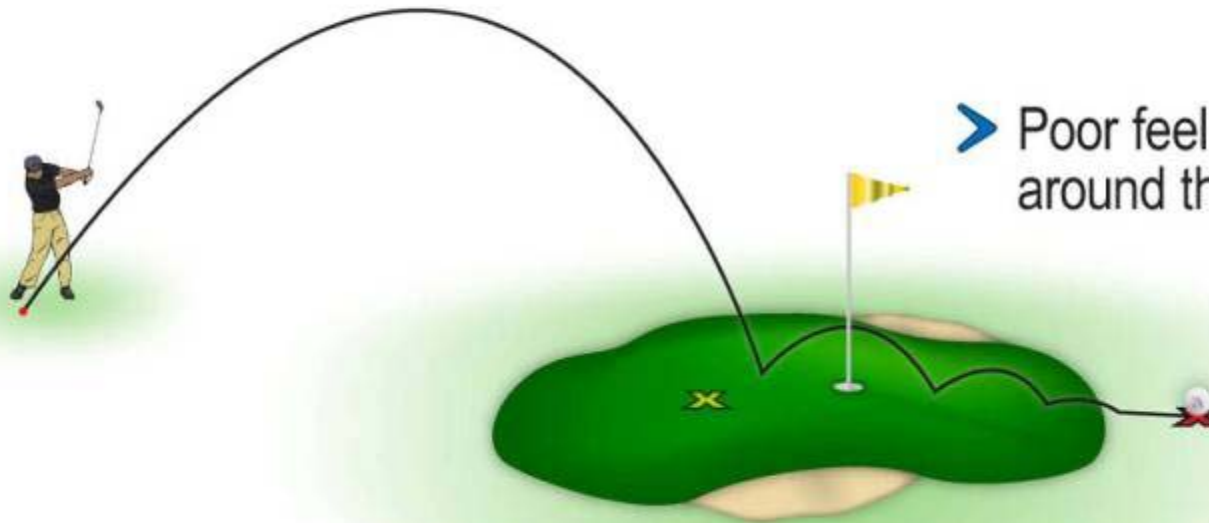


- **Advantage: Superior distance**
- **Disadvantage: Less spin, control, click and “feel”**
- **Popular with amateurs, not with professionals**
- **Examples: Spalding Executive, Spalding Top-Flite**

## Two-Piece Ball

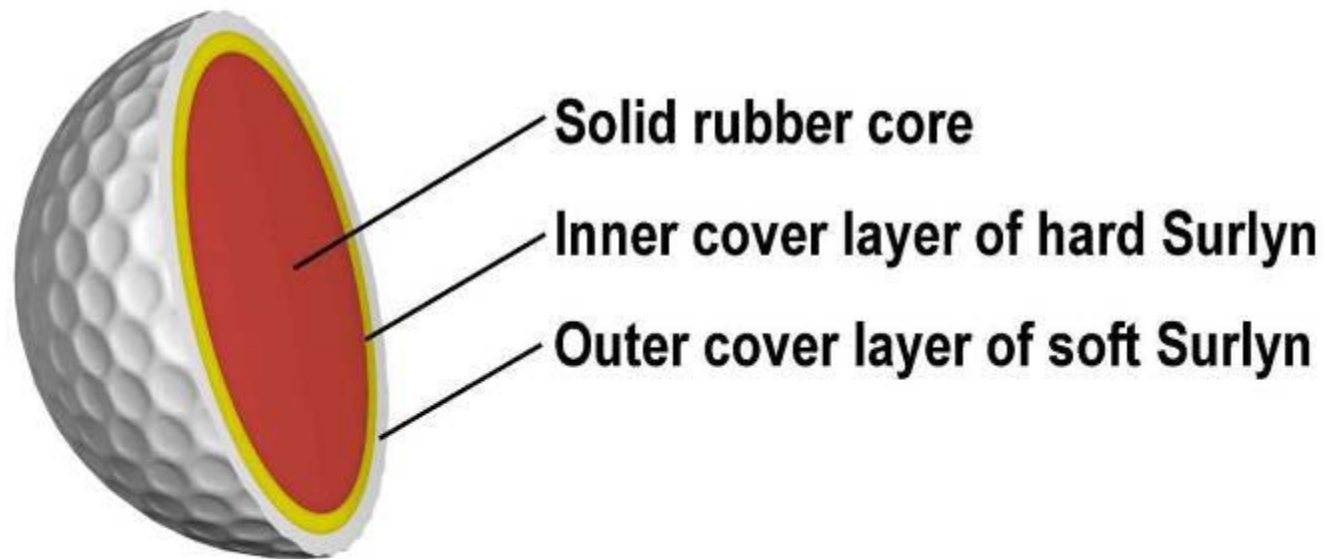


➤ Long, straight drives



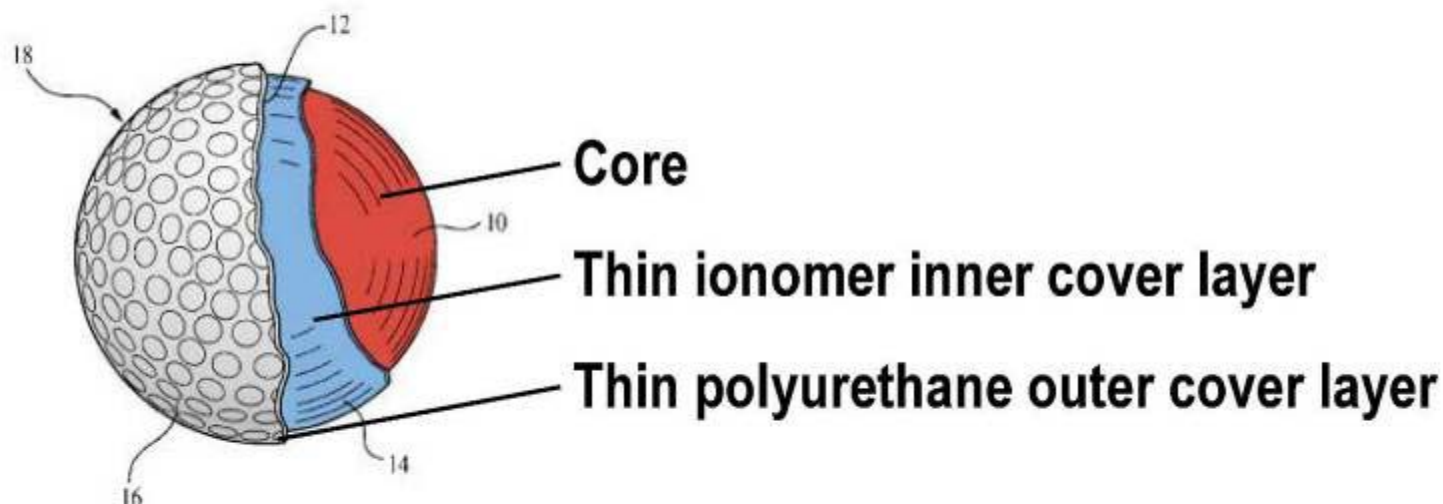
➤ Poor feel and control around the green

## Prior Art: Three-Piece Surlyn-Covered Golf Ball



- **Advantage: Better “feel” than two-piece balls**
- **Disadvantage: Less distance than two-piece balls**
- **Used by amateurs, few professionals**
- **Example: Spalding Strata**

# Patented Invention



The present invention is directed to an improved multi-layer golf ball comprising a core, an inner cover layer and an outer cover layer. The inner cover layer is comprised of a low acid ionomer blend which may or may not include a filler such as zinc-stearate. The outer cover layer is comprised of a soft, non-ionomeric thermoplastic or thermosetting elastomer such as polyurethane, polyester or polyesteramide. The resulting multi-layered golf ball of the present invention provides for enhanced distance without sacrificing playability or durability when compared to known multi-layer golf balls.

*U.S. Patent No. 6,210,293  
Abstract [PX-3]*



## The Sullivan '293 Invention Combines the Best of Both Worlds

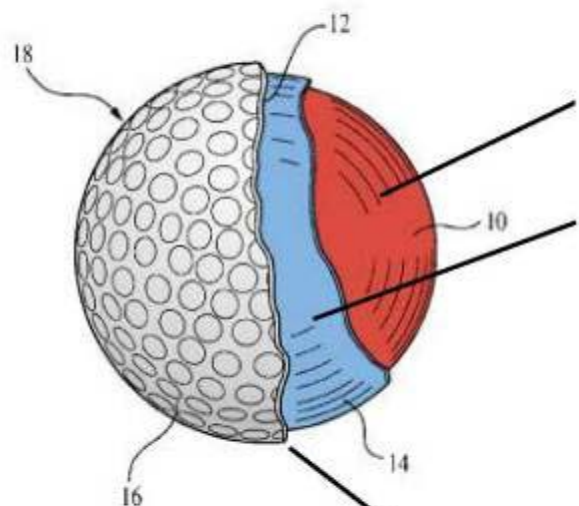


➤ Long, straight drives



➤ Excellent feel and control  
around the green

## Claimed Invention in More Detail



### Core

### Inner cover layer

- Blend of low acid ionomers ("blend claims") or including a low acid ionomer ("non-blend claims")
- Shore D hardness of 60 or more measured on the ball
- Thickness between 0.010 and 0.100 inches (3 claims)
- Modulus between 15,000 and 70,000 psi (4 claims)

### Outer cover layer

- Polyurethane
- Shore D hardness of 64 or less measured on the ball
- Thickness between 0.010 and 0.070 inches (5 claims) or between 0.010 and 0.050 inches (1 claim) or between 0.030 and 0.060 inches (1 claim)

## **Michael Sullivan - Inventor**



- **Scientist at Spalding from 1984 to 1999**
- **Bachelors Degree in Chemistry; Masters in polymer science**
- **Inventor on nearly 300 golf ball patents; more than any other person**

## **Michael Sullivan - Inventor**



- **Worked with Dennis Nesbitt and Bob Molitor at Spalding**
- **Invented the golf balls of the patents-in-suit in 1991**
- **Applied for the patents beginning in 1993**
- **Hired away from Spalding by Acushnet in 1999**



# Patents-in-Suit

(12) **United States Patent  
Sullivan**

(10) Patent No.: **US 6,210,293 B1**

(45) Date of Patent: **Apr. 3, 2001**

(54) **MULTI-LAYER GOLF BALL**

(58) Field of Search ..... 473/370-378

(75) Inventor: **Michael J. Sullivan**, Chicopee, MA  
(US)

(56) **References Cited**

## U.S. PATENT DOCUMENTS

(73) Assignee: **Spalding Sports Worldwide, Inc.**,  
Chicopee, MA (US)

4,431,193 \* 2/1984 Nesbitt ..... 473/374  
5,068,151 \* 11/1991 Nakamura ..... 473/377  
5,314,187 \* 5/1994 Proudfit ..... 473/374

(\*) Notice: Subject to any disclaimer, the term of this  
patent is extended or adjusted under 35  
U.S.C. 154(b) by 0 days.

\* cited by examiner

This patent is subject to a terminal dis-  
claimer.

Primary Examiner—Mark S. Graham

(21) Appl. No.: **09/470,196**

(57) **ABSTRACT**

(22) Filed: **Dec. 21, 1999**

The present invention is directed to an improved multi-layer  
golf ball comprising a core, an inner cover layer and an outer  
cover layer. The inner cover layer is comprised of a low acid  
ionomer blend which may or may not include a filler such as

## Related U.S. Application

(63) Continuation of application No. 08/870,585, filed on Jun. 6,  
1997, which is a continuation of application No. 08/556,237,  
filed on Nov. 9, 1995, now abandoned, which is a continu-  
ation-in-part of application No. 08/070,510, filed on Jun. 1,  
1993, now abandoned.

(51) Int. Cl.<sup>7</sup> .....

(52) U.S. Cl. ....

## Related U.S. Application Data

Continuation of application No. 08/870,585, filed on Jun. 6,  
1997, which is a continuation of application No. 08/556,237,  
filed on **Nov. 9, 1995**, now abandoned, which is a continu-  
ation-in-part of application No. 08/070,510, filed on Jun. 1,  
1993, now abandoned.

PX-3

21

# Sullivan Told PTO About Acushnet's Prior Art

US 6,210,293 B1

(12) **United States Patent**  
**Sullivan**

(10) Patent No.: **US 6,210,293 B1**  
(45) Date of Patent: **Apr. 3, 2001**

(54) **MULTI-LAYER GOLF BALL**

(75) Inventor: **Michael J. Sullivan, Chicopee, MA (US)**

(73) Assignee: **Spalding Sports Worldwide, Inc., Chicopee, MA (US)**

(\*) Notice: Subject to any disclaimer, the term of this patent is extended or adjusted under 35 U.S.C. 154(b) by 0 days.

This patent is subject to a terminal disclaimer.

(21) Appl. No.: **09/470,196**  
(22) Filed: **Dec. 21, 1999**

**Related U.S. Application Data**

(67) Continuation of application No. 08/070,585, filed on Jan. 6, 1997, which is a continuation of application No. 06/719,751, filed on Dec. 6, 1995, now abandoned, which is a continuation-in-part of application No. 08/070,525, filed on Jan. 3, 1993, now abandoned.

(51) Int. Cl.: **A63B 37/12**  
(52) U.S. Cl.: **473/374**

(58) Field of Search: 473/370-376

(56) References Cited

U.S. PATENT DOCUMENTS

4,431,193 \* 2/1984 Nesbitt ..... 473/374  
5,068,151 \* 11/1991 Nakamura ..... 473/377  
5,314,187 \* 5/1994 Proudfit ..... 473/374

\* cited by examiner

Primary Examiner—Mark S. Graham

(57) **ABSTRACT**

The present invention is directed to an improved multi-layer golf ball comprising a core, an inner cover layer and an outer cover layer. The inner cover layer is comprised of a low acid ionomer blend which may or may not include a filler such as zinc-stearate. The outer cover layer is comprised of a soft, non-oxametic thermoplastic or thermosetting elastomer such as polyurethane, polyester or polystyrene. The resulting multi-layered golf ball of the present invention provides for enhanced distance without sacrificing playability or durability when compared to known multi-layer golf balls.

**8 Claims, 1 Drawing Sheet**

PX-3

(10) Patent No.: **US 6,210,293 B1**  
(45) Date of Patent: **Apr. 3, 2001**

## (56) References Cited

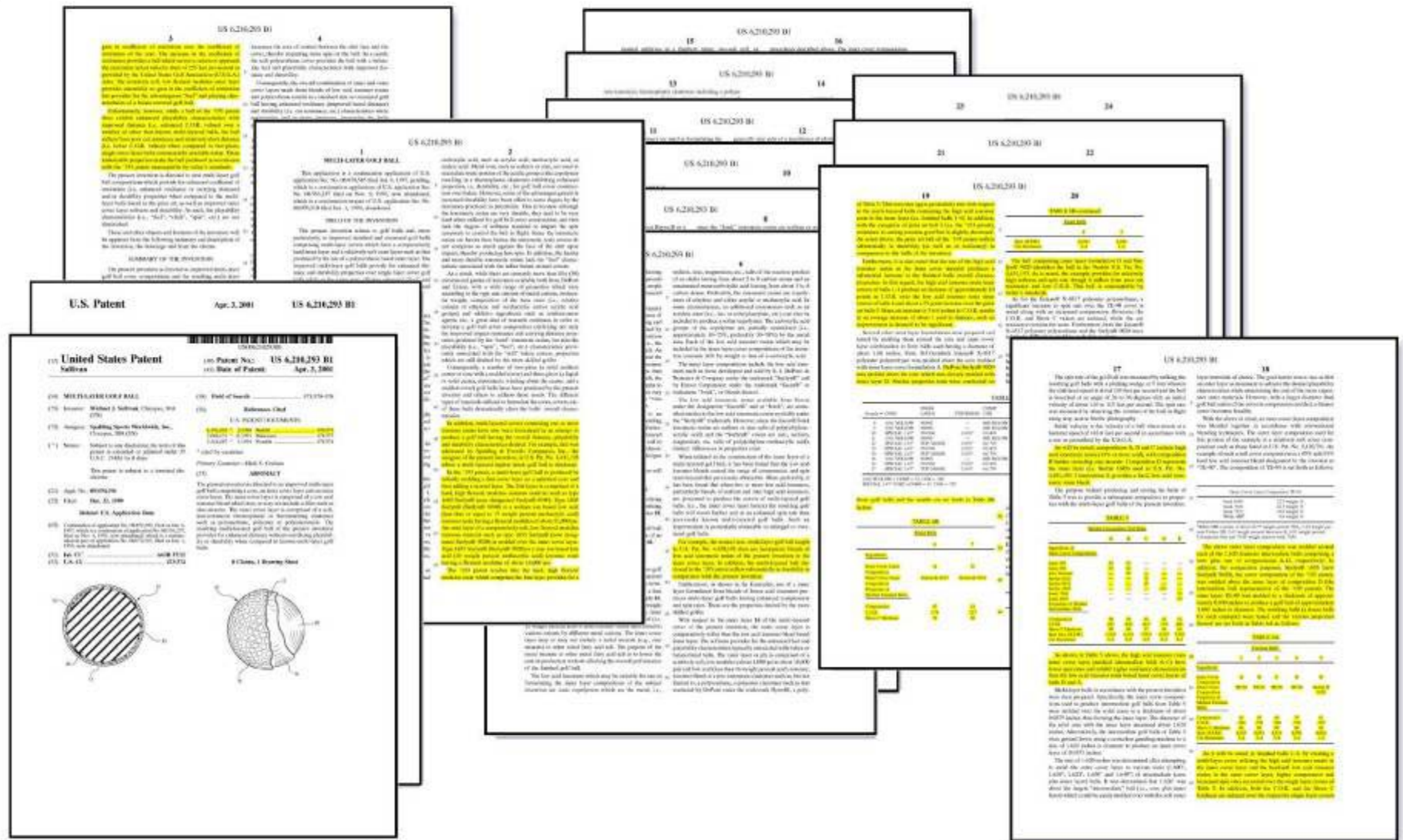
### U.S. PATENT DOCUMENTS

4,431,193 \* 2/1984 Nesbitt ..... 473/374  
5,068,151 \* 11/1991 Nakamura ..... 473/377  
5,314,187 \* 5/1994 Proudfit ..... 473/374

\* cited by examiner



## Sullivan Discussed Nesbitt at Length



PX-3

U.S. Patent No. 6,210,293, Col. 5: 6-22



# Sullivan Also Disclosed Molitor '637 and Wu

US0000015541

**(12) United States Patent**  
**Sullivan**

**(10) Patent No.:** US 6,503,156 B1  
**(45) Date of Patent:** \*Jan. 7, 2003

**(54) GOLF BALL HAVING MULTI-LAYER COVER WITH UNIQUE OUTER COVER CHARACTERISTICS**

**(73) Inventor:** Michael J. Sullivan, Barrington, RI (US)

**(71) Assignor:** Spalding Sports Worldwide, Inc., Chicopee, MA (US)

**(\*) Notice:** Subject to any disclaimer, the term of this patent is extended or adjusted under 35 U.S.C. 154(b) by 0 days.

This patent is subject to a terminal disclaimer.

**(21) Appl. No.:** 09/875,642  
**(22) Filed:** Jan. 4, 2000

**Related U.S. Application Data**

**(03)** Continuation of application No. 08/750,878, filed on Feb. 2, 2001, which is a continuation of application No. 08/470,196, filed on Oct. 21, 1995, now Pat. No. 6,282,953, which is a continuation of application No. 08/870,280, filed on Jan. 6, 1997, now abandoned, which is a continuation of application No. 08/036,217, filed on Jan. 6, 1993, now abandoned, which is a continuation-in-part of application No. 08/070,156, filed on Jan. 6, 1993, now abandoned.

**(51) Int. Cl.:** A63B 37/32  
**(52) U.S. Cl.:** 473/374  
**(58) Field of Search:** 473/376, 377, 473/378, 379, 373, 374

**(59) References Cited**

**U.S. PATENT DOCUMENTS**

2,741,480 A 4/1956 Smith  
2,973,000 A 3/1961 Macosie  
3,403,539 A 6/1967 (abandoned)  
3,264,272 A 8/1966 Davis  
3,315,547 A 4/1967 Benson  
3,972,523 A 3/1976 Sims  
3,984,412 A 5/1976 Smith et al.

**FOREIGN PATENT DOCUMENTS**

CA 2,187,940 6/1990  
EP 0,599,667 3/1994  
EP 0,609,660 12/1994  
EP 0,637,429 2/1995  
GB 4,400,000 10/1996

**OTHER PUBLICATIONS**

Bayer Corporation, "Engineering Polymer Properties: Quick Thermoplastics and Polyurethanes," *Technical*, pp. 2-7, 28-29.  
A Properties Guide, "Engineering Polymer Thermoplastics and Thermosets," *Mitsui Inc.*, 1-25 (1994).  
Polymerase Handbook, "Chemistry-From Molecular-Designing Applications-Properties," edited by Oetzel et al., *Hanser-Gardner Publications, Inc.*, 101, 102 (1994).

**(57) Abstract**

The present invention is directed to an improved multi-layer golf ball comprising a core, an inner cover layer and an outer cover layer. The inner cover layer is composed of a low acid ionomer blend which may or may not include a filler such as zinc-stearate. The outer cover layer is composed of a soft, non-stereoregular thermoplastic or thermosetting elastomer such as polyurethane, polyether or polyacrylate. The resulting multi-layered golf ball of the present invention provides for enhanced distance without sacrificing playability or durability when compared to known multi-layer golf balls.

**(58) Claims, 1 Drawing Sheet**

PX-3

4,218,543 A	8/1980	Weber et al.
4,248,432 A	2/1981	Hewitt et al.
4,272,079 A	6/1981	Nakade et al.
4,274,637 A	6/1981	Molitor
4,337,946 A	7/1982	Saito et al.
4,431,193 A *	2/1984	Nesbitt .....
4,442,282 A	4/1984	Kolycheck
4,570,937 A	2/1986	Yamada
4,582,887 A	4/1986	Dominguez et al.
4,590,219 A	5/1986	Nissen et al.
4,607,090 A	8/1986	Dominguez
4,650,193 A	3/1987	Molitor et al.
4,674,751 A	6/1987	Molitor et al.
4,679,795 A	7/1987	Melvin et al.
4,688,801 A	8/1987	Reiter
4,690,981 A	9/1987	Statz

5,314,187 A *	5/1994	Proudfit .....
5,324,783 A	6/1994	Sullivan
5,330,837 A	7/1994	Sullivan
5,334,673 A	8/1994	Wu
5,338,610 A	8/1994	Sullivan
5,368,304 A	11/1994	Sullivan et al.
5,368,806 A	11/1994	Harasin et al.

## **Presumption of Validity**

- Patents are presumed to be valid**
- All of Acushnet's prior art was before the Patent Office Examiners who issued the patents**
- To find the claims invalid, there must be clear and convincing evidence that the Patent Office should not have issued the patents**

## Acushnet

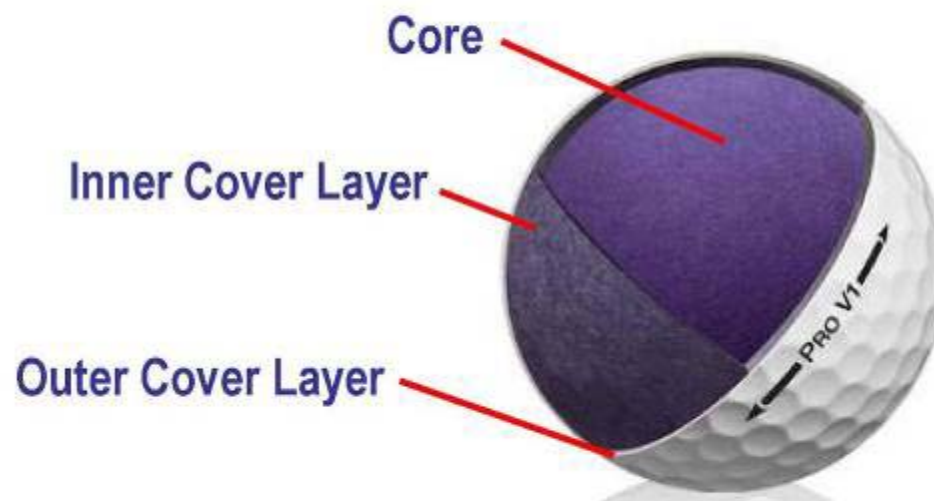
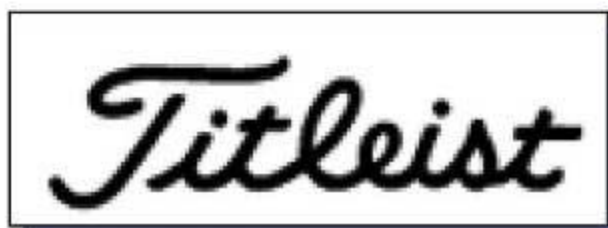
*Titleist*



- Golf division of Fortune Brands
- Includes Titleist as well as Pinnacle, Footjoy and Cobra
- Leading golf ball manufacturer
- In 2000, when the Rule 35 came out, Titleist's premium golf balls were all wound (Professional, Tour Prestige)



## Acushnet



- Had to play catch-up to Callaway Golf, as well as Nike and Bridgestone
- Recognized the revolutionary technology
- Introduced Pro V1 in October 2000
  - Core, ionomer inner cover, polyurethane outer cover
- Received patents – the Hebert Patents – on the “veneer concept”

# Acushnet Had to Play Catch-Up

## Veneer Core Research

May 1, 2000

### Purpose:

With the introduction of the Callaway Red (Firm Feel) and Callaway Blue (Soft Feel) golf balls, the Veneer project has become a high priority in the R&D department. These new competitive products have shown distance advantages over our new design. After dissecting the golf balls, the Veneer core was determined to be slower than Callaway cores.

Based on separate studies conducted by the Veneer team, it was determined that the Veneer core would produce a slower ball than the Callaway Red and Blue. The Veneer core was determined to be slower than Callaway cores.

### Procedure:

A large number of balls were tested under various conditions to determine the Veneer core's performance.

### Results:

After many experimental tests, the Veneer core was determined to be slower than Callaway cores.

Veneer Prototype  
100 PWR Blue 1228  
25.8 PWR 20A  
4.3 PWR 2x0  
16.4 PWR 1x0  
15.1 PWR 1x0

The following chart lists the core properties obtained from the tests.

Chart 1: Veneer Core Data

	Diameter (in)	Weight (oz)	Compression	Call (in 124 lbs)
Prototype	1.515	1.279	68.8	0.801
Veneer	1.541	1.381	72.7	0.804
Blue & Veneer	1.541	1.387	71.6	0.811
Callaway Blue	1.520	1.311	66.5	0.805
Callaway Red	1.511	1.229	70.7	0.809

## Veneer Core Research

May 1, 2000

### Purpose:

With the introduction of the Callaway Red (Firm Feel) and Callaway Blue (Soft Feel) golf balls, the Veneer project has become a high priority in the R&D department. These new competitive products have shown distance advantages over our new design. After dissecting the golf balls, the Veneer core was determined to be slower than Callaway cores.

Case No. 06-91 (SLR)

PX-985

Date Entered:

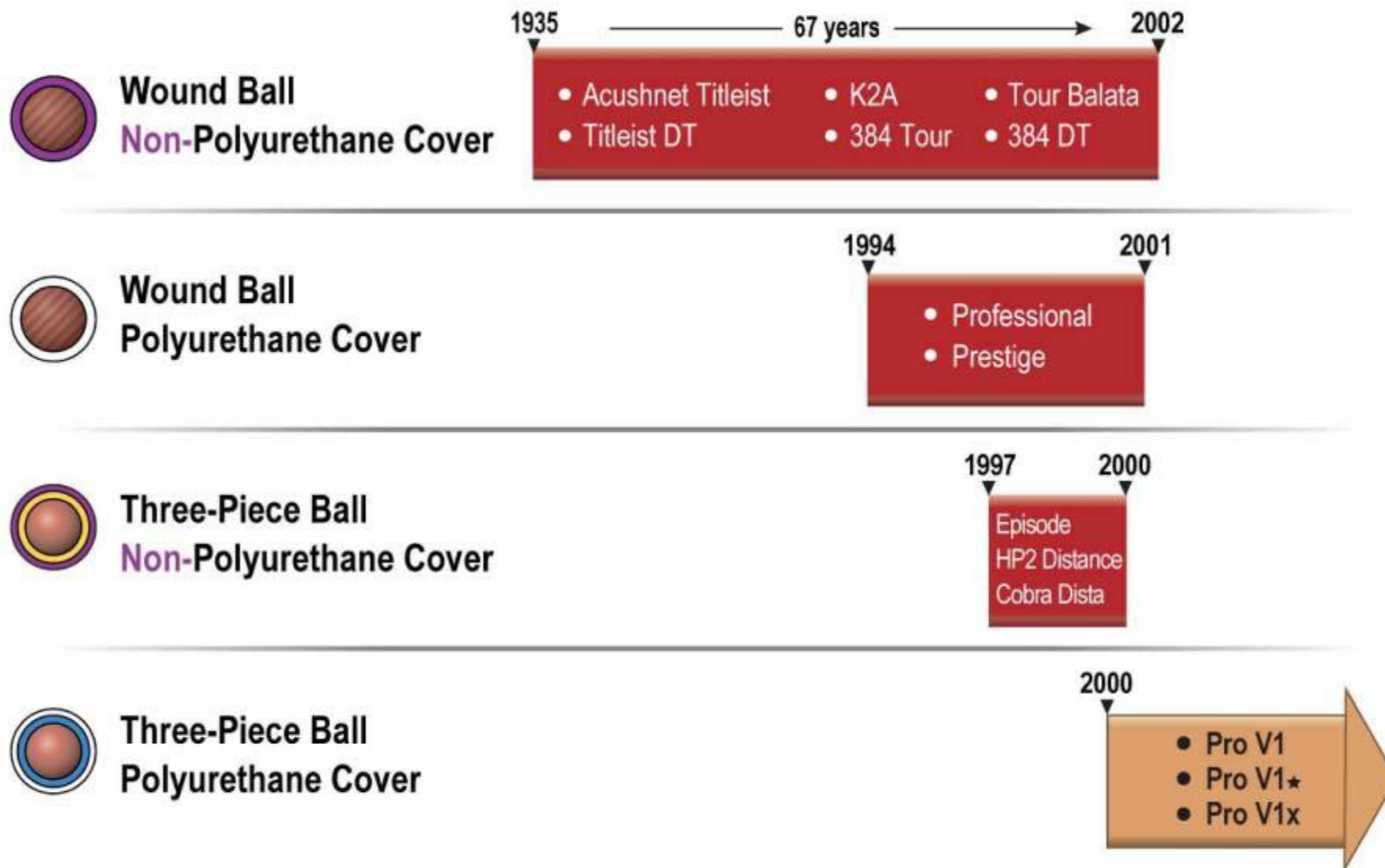
By:

AC0041828/IR

HIGHLY CONFIDENTIAL - SUBJECT TO PROTECTIVE ORDER

PX-985

# Titleist Golf Ball Timeline



# Acushnet's Hebert '172 Patent

## United States Patent Hebert et al.

[54] MULTILAYER GOLF BALL WITH A THERMOSET OUTER LAYER

[75] Inventors: Edmund A. Hebert, North Dartmouth, Mass.; William E. Morgan, Barrington, R.I.; Dean Snell, Oceanside, Calif.

[73] Assignee: Acushnet Company, Fairhaven, Mass.

[21] Appl. No.: 863,788

[22] Filed: May 27, 1997

[51] Int. Cl.<sup>7</sup>: A63B 37/08; A63B 37/12; A63B 37/06

[52] U.S. Cl.: 473/354; 473/365; 473/376; 473/377; 473/378

[56] Field of Search: 473/384, 354, 363, 365

[56] References Cited  
U.S. PATENT DOCUMENTS

3,147,324	9/1964	Ward	264/254
3,177,280	4/1965	Ford et al.	264/275
3,262,272	7/1966	Barakauskas et al.	60/39.05
3,616,101	10/1971	Satchell et al.	161/7
3,989,568	11/1976	Isaac	156/182
4,203,941	5/1980	Brooker	264/250
4,431,193	2/1984	Nesbitt	273/235
4,625,964	12/1986	Yamada	273/62
4,848,770	7/1989	Shama	273/228
4,919,434	4/1990	Saito	273/235 R
4,959,000	9/1990	Giza	425/116

INNER COVER  
Flex Mod. 65,000psi - 120,000psi  
Thickness: 0.020in. - 0.045in.  
Shore D: 65 - 74

Wound or Solid Core  
Solid or Liquid Center

OUTER COVER  
Shore D: 30 - 60  
Thickness: < 0.05in.

PX-17

## United States Patent [19]

Hebert et al.

[11] Patent Number: 5,885,172

[45] Date of Patent: Mar. 23, 1999

### [54] MULTILAYER GOLF BALL WITH A THIN THERMOSET OUTER LAYER

[75] Inventors: Edmund A. Hebert, North Dartmouth, Mass.; William E. Morgan, Barrington, R.I.; Dean Snell, Oceanside, Calif.

[73] Assignee: Acushnet Company, Fairhaven, Mass.

[21] Appl. No.: 863,788

[22] Filed: May 27, 1997

[51] Int. Cl.<sup>7</sup>: A63B 37/08; A63B 37/12; A63B 37/06

[52] U.S. Cl.: 473/354; 473/365; 473/376; 473/377; 473/378

[58] Field of Search: 473/377, 378, 473/384, 354, 363, 365, 374, 376

[56] References Cited

### U.S. PATENT DOCUMENTS

3,147,324	9/1964	Ward	264/254
3,177,280	4/1965	Ford et al.	264/275
3,262,272	7/1966	Barakauskas et al.	60/39.05
3,616,101	10/1971	Satchell et al.	161/7
3,989,568	11/1976	Isaac	156/182
4,203,941	5/1980	Brooker	264/250
4,431,193	2/1984	Nesbitt	273/235
4,625,964	12/1986	Yamada	273/62
4,848,770	7/1989	Shama	273/228
4,919,434	4/1990	Saito	273/235 R
4,959,000	9/1990	Giza	425/116

5,002,281	3/1991	Nakahara et al.	273/220
5,006,288	4/1991	Rhodes et al.	264/46.6
5,006,297	4/1991	Brown et al.	264/234
5,072,944	12/1991	Nakahara et al.	273/220
5,112,556	5/1992	Miller	264/279
5,253,871	10/1993	Viollaz	273/228
5,314,187	5/1994	Proudfit	273/235 R
5,334,673	8/1994	Wu	273/235 R
5,415,937	5/1995	Cadorniga et al.	473/385 X
5,609,535	3/1997	Morgan	473/378 X
5,692,974	12/1997	Wu et al.	473/377

### FOREIGN PATENT DOCUMENTS

2278609	7/1994	United Kingdom
2291811	7/1996	United Kingdom
2291812	7/1996	United Kingdom
2291817	7/1996	United Kingdom

Primary Examiner—George J. Marlo  
Attorney, Agent, or Firm—Pennie & Edmonds LLP

[57] ABSTRACT

The present invention is directed towards a multilayer golf ball which comprises a core, an inner cover layer and an outer cover layer, wherein the outer cover layer comprises a thermoset material formed from a castable, reactive liquid, said outer layer having a thickness of less than 0.05 inches and said inner cover layer comprises a high flexural modulus material. The golf balls of the present invention are believed to provide a "progressive performance" from driver to wedge.

18 Claims, 1 Drawing Sheet



# Acushnet's Hebert '172 Patent

<b>United States Patent</b> [19]		[11] Patent Number:	<b>5,885,172</b>
<b>Hebert et al.</b>		[45] Date of Patent:	<b>Mar. 23, 1999</b>
[54] <b>MULTILAYER GOLF BALL WITH A THIN THERMOSET OUTER LAYER</b>		5,002,281	3/1991 Nakahara et al. .... 273/220
[75] Inventors: Edmund A. Hebert, North Dartmouth, Mass.; William E. Morgan, Barrington, R.I.; Dean Snell, Oceanside, Calif.		5,006,268	4/1991 Rhodes et al. .... 264/234
[73] Assignee: Acushnet Company, Fairhaven, Mass.		5,006,267	4/1991 Brown et al. .... 264/234
[21] Appl. No.: <b>863,788</b>		5,072,944	12/1991 Nakahara et al. .... 273/220
[22] Filed: <b>May 27, 1997</b>		5,112,550	5/1992 Miller ..... 264/279
[51] Int. Cl. <sup>6</sup> ..... A63B 37/08; A63B 37/12; A63B 37/06		5,253,871	10/1993 Vieth ..... 273/228
[52] U.S. Cl. .... 473/354; 473/365; 473/363; 473/376; 473/378		<b>5,314,187</b>	<b>5/1994 Penzlin</b> ..... 273/235 R
[58] Field of Search ..... 473/377, 378; 473/384, 354, 363, 365, 374, 370		<b>5,334,673</b>	<b>6/1994 Wu</b> ..... 273/235 R
[56] References Cited		5,415,937	5/1995 Calverton et al. .... 473/385 X
U.S. PATENT DOCUMENTS		5,609,535	3/1997 Morgan ..... 473/378 X
3,147,324		5,692,974	12/1997 Wu et al. .... 473/377
3,177,280		FOREIGN PATENT DOCUMENTS	
3,262,272		2278609	7/1994 United Kingdom .
3,616,101		2290811	7/1996 United Kingdom .
3,989,368		2291812	7/1996 United Kingdom .
4,203,941		2291817	7/1996 United Kingdom .
<b>4,433,193</b>		Primary Examiner—George J. Murlo	
4,625,964		Attorney, Agent, or Firm—Pennie & Edmonds LLP	
4,846,770		[57] ABSTRACT	
4,919,434		The present invention is directed towards a multilayer golf ball which comprises a core, an inner cover layer and an outer cover layer, wherein the outer cover layer comprises a thermoset material formed from a castable, reactive liquid, said outer layer having a thickness of less than 0.05 inches and said inner cover layer comprises a high flexural modulus material. The golf balls of the present invention are believed to provide a "progressive performance" from driver to wedge.	
4,959,000		18 Claims, 1 Drawing Sheet	

PX-17

- Covers three-piece, solid-core balls with cast polyurethane cover
- Acushnet insisted that Callaway Golf buy a license to the Hebert Patents
- Callaway Golf and Acushnet both learned later that it was Sullivan, not Hebert, who invented this new technology

# Acushnet's Hebert '172 Patent

The invention is particularly directed towards a multilayer golf ball which comprises a core, an inner cover layer and an outer cover layer. The thickness of the outer cover layer

Thermoset polyurethanes and urethanes are particularly preferred for the outer cover layers of the balls of the present invention. Polyurethane is a product of a reaction between a polyurethane prepolymer and a curing agent. The polyurethane prepolymer is a product formed by a reaction between a polyol and a diisocyanate. The curing agent is typically either a diamine or glycol. Often a catalyst is employed to promote the reaction between the curing agent and the polyurethane prepolymer.

## United States Patent

Hebert et al.

Patent Number: 5,885,172  
Date of Patent: Mar. 23, 1999

[34] MULTILAYER GOLF BALL WITH A THIN THERMOSET OUTER LAYER

[75] Inventors: Edmund A. Hebert, North Dartmouth, Mass.; William E. Morgan, Barrington, H.I.; Devin Swift, Occidental, Calif.

[70] Assignee: Acushnet Company, Falmouth, Mass.

[21] Appl. No.: 863,786

[22] Filed: May 27, 1997

[31] Int. Cl.<sup>7</sup>: A63B 37/00; A63B 37/12; A63B 37/90

[52] U.S. Cl.: 473/354; 473/362; 475/303; 475/374; 475/376

[56] Field of Search: 473/354, 362, 365, 368, 374, 376

[50] References Cited

U.S. PATENT DOCUMENTS  
3,147,426 6/1965 Ward ..... 204-224  
3,177,267 6/1966 Tiedin et al. .... 204-225  
3,262,272 7/1966 Backlund et al. .... 403-415  
3,614,444 10/1971 Seibold et al. .... 363-7  
3,689,560 11/1973 Isner ..... 176-182  
4,103,041 5/1980 Boster ..... 204-225  
4,434,183 2/1980 Nishida ..... 273-235  
4,679,963 12/1980 Yonaka ..... 273-235  
5,006,751 7/1990 Rouse ..... 273-235  
5,014,444 6/1991 Sauer ..... 273-235  
5,050,003 9/1991 Goss ..... 425-435

## FOREIGN PATENT DOCUMENTS

277669 7/1994 United Kingdom  
2248412 7/1999 United Kingdom  
2294812 7/1999 United Kingdom  
2294817 7/1999 United Kingdom

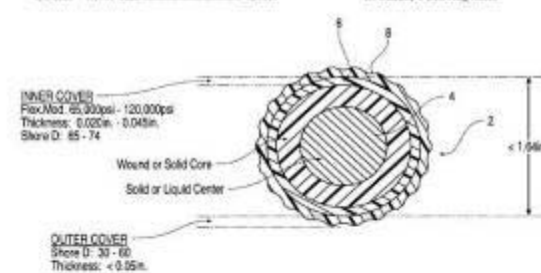
Primary Examiner—George J. Marks

Attorney, Agent, or Firm—Rosen & Lichstein LLP

## ABSTRACT

The present invention is directed towards a multilayer golf ball which comprises a core, an inner cover layer and an outer cover layer, wherein the inner cover layer comprises a thermoset material formed from a suitable reactive liquid, said outer layer having a thickness of less than 0.05 inches and said inner cover layer comprises a high tensile modulus material. The golf balls of the present invention are believed to provide a "progressive performance" from driver to wedge.

18 Claims, 1 Drawing Sheet



PX-17

## **Spalding's Golf Business Struggled in Late 1990's**

- Bought by New York investment bank in 1996**
- The bank saddled Spalding with huge debt load**
- Management struggled to service that debt**
- Made it difficult for Spalding to capitalize on R&D**

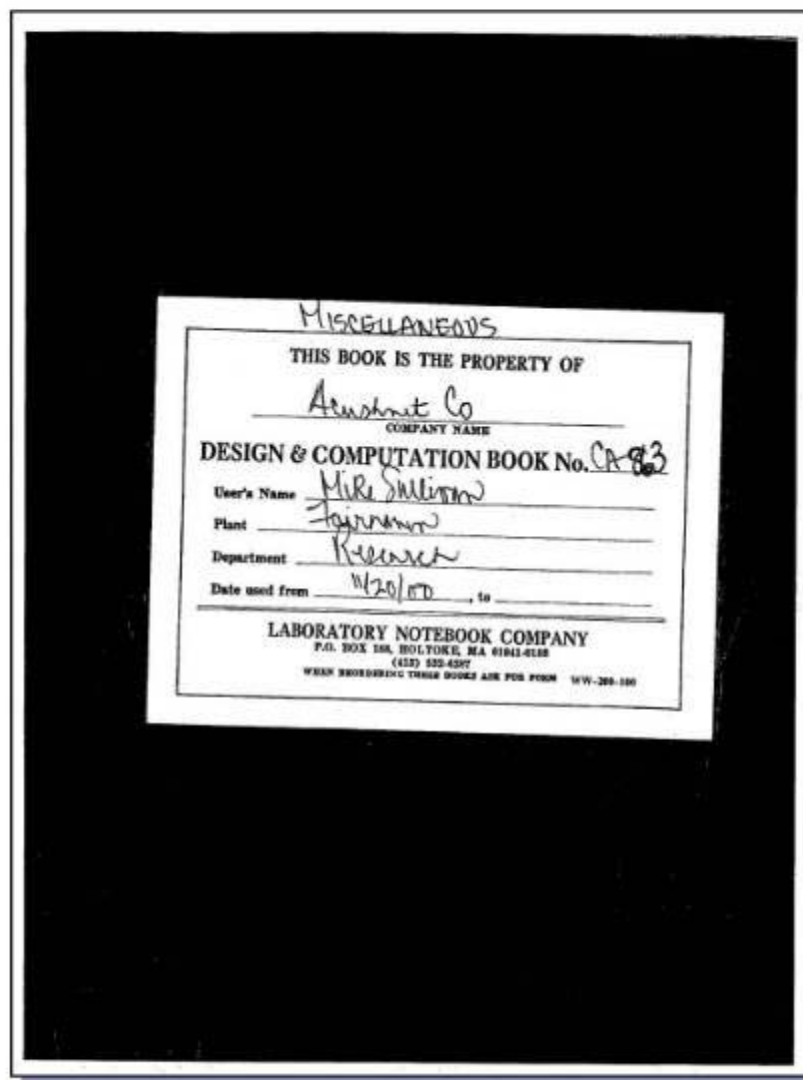
## **Acushnet Hired Sullivan Away from Spalding**

- **Hired by Acushnet in 1999**
- **Acushnet wanted Mr. Sullivan's golf ball design experience**
- **Acushnet wanted Mr. Sullivan to help them build their patent portfolio**
- **Acushnet wanted to keep Mr. Sullivan from going to Callaway Golf**





## Sullivan's Work at Acushnet



PX-619

AC0090622-715

# Sullivan's Work at Acushnet

DATE 12-19-00 SUBJECT Multi-Layer Golf Balls

Clearly a high priority for Titleist is freedom to operate in the multi-layer golf ball area. During

"Clearly a high priority for Titleist is freedom to operate in the multi-layer golf ball area."

DATE 12-19-00 SUBJECT Multi-Layer Golf Balls PROJECT NO. 27

Clearly a high priority for Titleist is freedom to operate in the multi-layer golf ball area. During the past several years, Titleist has been actively pursuing data for various multi-layer golf balls. The following is a summary of the data collected and the conclusions drawn.

(1) The most important factor in determining the performance of a multi-layer golf ball is the design of the core. The core should be designed to provide a high initial velocity and a high spin rate. The core should also be designed to provide a high level of durability.

(2) The next most important factor is the design of the cover. The cover should be designed to provide a high level of durability and a high level of resistance to wear. The cover should also be designed to provide a high level of resistance to oxidation.

(3) The third most important factor is the design of the grooves. The grooves should be designed to provide a high level of resistance to wear and a high level of resistance to oxidation. The grooves should also be designed to provide a high level of resistance to corrosion.

(4) The fourth most important factor is the design of the dimples. The dimples should be designed to provide a high level of resistance to wear and a high level of resistance to oxidation. The dimples should also be designed to provide a high level of resistance to corrosion.

(5) The fifth most important factor is the design of the overall ball. The overall ball should be designed to provide a high level of resistance to wear and a high level of resistance to oxidation. The overall ball should also be designed to provide a high level of resistance to corrosion.

(6) The sixth most important factor is the design of the overall ball. The overall ball should be designed to provide a high level of resistance to wear and a high level of resistance to oxidation. The overall ball should also be designed to provide a high level of resistance to corrosion.

(7) The seventh most important factor is the design of the overall ball. The overall ball should be designed to provide a high level of resistance to wear and a high level of resistance to oxidation. The overall ball should also be designed to provide a high level of resistance to corrosion.

(8) The eighth most important factor is the design of the overall ball. The overall ball should be designed to provide a high level of resistance to wear and a high level of resistance to oxidation. The overall ball should also be designed to provide a high level of resistance to corrosion.

(9) The ninth most important factor is the design of the overall ball. The overall ball should be designed to provide a high level of resistance to wear and a high level of resistance to oxidation. The overall ball should also be designed to provide a high level of resistance to corrosion.

(10) The tenth most important factor is the design of the overall ball. The overall ball should be designed to provide a high level of resistance to wear and a high level of resistance to oxidation. The overall ball should also be designed to provide a high level of resistance to corrosion.

WITNESSED AND SUBMITTED:

DATE 12-19-00

Further: How else can we develop/continue in area to launch future 2, 3 layer core (core ball) - Next 5-7 years will be dominated by these ball types, most important are Multilayer High Spin Designs!

"Next 5-7 years will be dominated by these ball types."

CAUTION: SPALDING DOMINATES THIS ART... UNSURE WHAT DISCLOSURE LANDMINES WE MAY HIT!!

"CAUTION: SPALDING DOMINATES THIS ART..."

PX-619 at AC0090649



## Sullivan's Work at Acushnet

DATE 12-22-00 SUBJECT What Comes after Venice

[illegible]

- Problem in Titlest: Teacher was there much earlier than Titlest... What were you guys doing?? Watching & waiting?
- What comes next:??

**“PROBLEM for Titleist is SPALDING WAS THERE MUCH earlier than Titleist.... What were you guys doing??? Watching & waiting??”**

PX-619 at AC0090653

## The '293 Patent Issued Right After Callaway Golf Signed the Hebert License with Acushnet

**(10) Patent No.: US 6,210,293 B1**

(45) **Date of Patent:** Apr. 3, 2001

[illegible]

H. A. Jansen, J. B. W. van der Wal

PX-3

- Early 2001 – Acushnet and Callaway Golf sign the Hebert license
- April 3, 2001 – The Sullivan ‘293 Patent issues to Spalding

# Acushnet Realized that Spalding, Not Acushnet, Owned the Patents on the Key Concept

## United States Patent

**Sullivan**

(10) Patent No.: **US 6,210,293 B1**  
(45) Date of Patent: **Apr. 3, 2001**

### MULTI-LAYER GOLF BALL

Inventor: **Michael J. Sullivan**, Chicopee, MA (US)

Assignee: **Spalding Sports Worldwide, Inc.**, Chicopee, MA (US)

Appl. No.: **09/470,196**

Filed: **Dec. 21, 1999**

### Related U.S. Application Data

Continuation of application No. 08/870,585, filed on Jun. 6, 1997, which is a continuation of application No. 08/556,237, filed on Nov. 9, 1995, now abandoned, which is a continuation-in-part of application No. 08/070,510, filed on Jun. 1, 1993, now abandoned.

Int. Cl.<sup>7</sup> ..... **A63B 37/12**  
U.S. Cl. .... **473/374**

PX-3

## United States Patent [19]

**Hebert et al.** [11] Patent Number: **5,885,172**  
[45] Date of Patent: **Mar. 23, 1999**

[54] **MULTILAYER GOLF BALL WITH A THIN THERMOSET OUTER LAYER**

[75] Inventors: **Edmund A. Hebert**, North Dartmouth, Mass.; **William E Morgan**, Barrington, R.I.; **Dean Snell**, Oceanside, Calif.

[73] Assignee: **Acushnet Company**, Fairhaven, Mass.

[21] Appl. No.: **863,788**

[22] Filed: **May 27, 1997**

[51] Int. Cl.<sup>6</sup> ..... **A63B 37/08; A63B 37/12; A63B 37/06**

[52] U.S. Cl. .... **473/354; 473/365; 473/363; 473/376; 473/378**

[58] Field of Search ..... **473/377, 378, 473/384, 354, 363, 365, 374, 376**

PX-17



## **Reaction at Acushnet to the Issuance of the Sullivan '293 Patent**

- > Internal Acushnet e-mails regarding the '293 Patent on the same day it issued**
- > Frantic search for prior art**
- > Result: Acushnet changed opinion – concept of polyurethane-covered multilayer golf ball was now “obvious”**

## **Dr. Risen Will Explain that the Asserted Claims Are Not Obvious**



- **Dr. Bill Risen**
- Professor of Chemistry at Brown University
- 20 years in golf ball design



## Dennis Nesbitt Does Not Think He Invented the Polyurethane Covered Three-Piece Golf Ball



Q. Do you think that you invented the polyurethane three-piece golf ball?

A. No, I didn't.

*Nesbitt Deposition, April 11, 2007,  
Page 249:13-15*

# The Market Demanded the Patented Technology

## *The Road to Our Present Day Pro VI Journey*

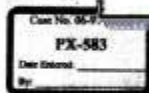
- + Wound Culture & Concentration
- + Competitive Landscape Challenges
- + Nature of the Game & Player Changes
- + Golfer Strength & Performance Requirements Evolving...Distance is the Holy Grail
- + Await Competition's Best Shot and Respond

## *Why the Accelerated Launch of Pro VI Now?*

- + Momentum and buzz within industry peaked
- + Opportunity to capitalize upon noise and consumer curiosity timely
- + Pre-empt Competitive counter antics and actions...Product and Marketing
- + Satisfy consumer demand, as well as avoid negative trade and player sentiments due to exclusion

## *The Road to Our Present Day Pro VI Journey*

- + Wound Culture & Concentration
- + Competitive Landscape Challenges
- + Nature of the Game & Player Changes
- + Golfer Strength & Performance Requirements Evolving...Distance is the Holy Grail
- + Await Competition's Best Shot and Respond



AC000072 LR

HIGHLY CONFIDENTIAL - SUBJECT TO PROTECTIVE ORDER

PX-583

# Acushnet Introduced the Pro V1 in Response to Competition, including Callaway Golf

## New Pro V1 Product Brief

### Objectives

- Demonstrate the multi-component construction performance superiority of the Titleist brand to crush the myth that Titleist is the "wound ball" company.
- Fortify and protect our worldwide #1 ball in golf position by providing multi-component technology to complement our tour proven, wound technology.
- Enhance Titleist's reputation as the technology and performance leader in all construction categories by emphasizing that Titleist was the first to develop and receive patents for this new large-core, multi-component technology.
- Deliver products optimized for the next generation of golfers... New Bloods.
- Affirm its superior performance by the immediate acceptance (usage & success) on the worldwide professional tours.
- Capitalize on the success of our Unifuse Elastomer technology and increase market share in On/Off channels at the expense of competitive models.
- Stimulate trial among competitive high performance golf ball users and "vulnerable" Titleist golf ball users.

### Golfer Audience

1. Current competitive golf ball users:
  - Callaway Red
  - Callaway Blue
  - Nike Tour Accuracy
  - Bridgestone Precept Tour
  - Strata Tour Professional
  - Maxfli Revolution
2. Current Titleist users who are
3. Avid core, serious golfers seeking
4. High ball/club speed players.

### Positioning

- High performance golf ball targeted to focus on high ball/club speed players
- Longer distance with driver and 3-wood
  - Tight ball flight in all wind conditions
  - Higher launching, less slicing, flatter
  - Steeper angle of descent with approach
  - Drop-and-stop™ performance
  - Soft feel (distinctly different from wound balls)
  - Short and abrasion durability

### Packaging

Platinum Ball with Copper accents.

## New Pro V1 Product Brief

### Golfer Audience

#### 1. Current competitive golf ball users:

- Callaway Red
- Callaway Blue
- Nike Tour Accuracy
- Bridgestone Precept Tour Premium
- Strata Tour Professional
- Maxfli Revolution

2. Current Titleist users who are vulnerable to switching to competitive models.
3. Avid core, serious golfers seeking the highest performance technology.
4. High ball/club speed players.

HIGHLY CONFIDENTIAL - SUBJECT TO PROTECTIVE ORDER



AC0070020

PX-1116



# Acushnet's Strategy Was to Watch and Wait

## New Pro V1 Product Brief

### Objectives

- Demonstrate the multi-component construction performance superiority of the Titleist brand to crush the myth that Titleist is the "wound ball" company.
- Fortify and protect our worldwide #1 ball in golf position by providing multi-component technology to complement our iron process, wound technology.
- Enhance Titleist's reputation as the technology and performance leader in all construction categories by emphasizing that Titleist was the first to develop and receive patents for this type of construction.
- Deliver product optimal
- Affirm its superior performance worldwide position
- Capitalize on the success share in On/Off channel
- Stimulate trial among current Titleist golf ball users.

### Golfer Audience

1. Current competitive
  - Callaway Red
  - Callaway Blue
  - Nike Tour Accu
  - Bridgestone Pro
  - Srixon Tour Pro
  - Mizuno Revolve
2. Current Titleist user
3. Avoid core, serious golfer
4. High ball/club speed

### Positioning

- High performance golf ball focus on high ball/club speed
- Longer distance with driver
  - Tight ball flight in all winds
  - Higher launching, less spin
  - Steeper angle of descent
  - Drop-and-stop™ performance
  - Soft feel (distinctly different)
  - Shorter and shorter distance

### Packaging

Platinum Foil with Copper

## Why has Titleist waited so long to introduce this ball?

Given the current competitive golf ball environment, Titleist's introduction strategy was to allow the competition to launch what was their first and, what we considered to be, their best shot. We watched and responded accordingly with the high performance multi-component Pro V1, a product of superior performance.

The Pro V1 has been designed to respond to the changing nature of the game. Many of today's highly skilled golfers are placing a greater premium on distance.

The new Pro V1 accomplishes the distance objective through its high launch, low spin performance characteristics while retaining the playability the golfer expects in a high performance golf ball.

HIGHLY CONFIDENTIAL - SUBJECT TO PROTECTIVE ORDER

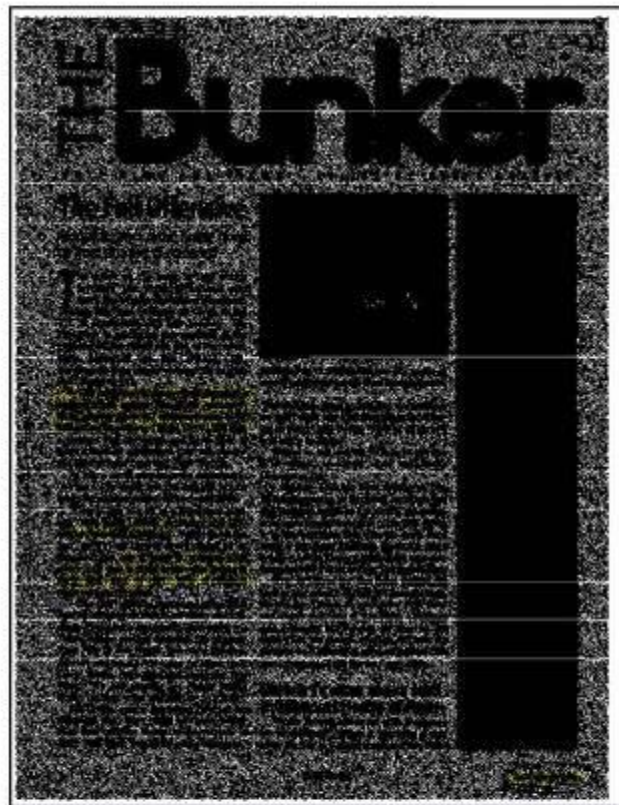


AC0070020

PX-1116

# The Bunker

**October 13, 2000**



PX-984

The Acushnet Company has mounted a counterattack against Nike (Tour Accuracy) and Callaway (Rule 35) with the launch of its solid-core, three-layer Titleist Pro V1 392 ball.

“Clearly, this is a bit of a Normandy landing,” said Wally Uihlein, president and CEO of the Acushnet Company. “Apart from the fact [the V1] has been in development for as long as it has, our strategy is to watch what everybody else is going to do—the feeling is their first shot is their best shot—and respond appropriately.”



**"In a competitive environment, it's better to know what you're shooting at than shooting in the dark," Uihlein said. "We watched everyone launch their ships, then we responded."**

# Golfweek: "Titleist's Big Makeover"

## Titleist's big makeover

Development of the then-unnamed golf ball continued at a fairly steady pace through the 2000 PGA Merchandise Show in Orlando, Fla.

"But then things really accelerated," Uihlein says. "We had made the decision to wait and see what our competitors came out with at the show and where we had to be for our product to be better. And once we knew what they had, we really pushed on."



V1 Development of the then-unnamed golf ball continued at a fairly steady pace through the 2000 PGA Merchandise Show in Orlando, Fla.

"But then things really accelerated," Uihlein says. "We had made the decision to wait and see what our competitors came out with at the show and where we had to be for our product to be better. And once we knew what they had, we really pushed on."

According to an industry source who asked that he not be named, Titleist's development of the then-unnamed golf ball continued at a fairly steady pace through the 2000 PGA Merchandise Show in Orlando, Fla.

"But then things really accelerated," Uihlein says. "We had made the decision to wait and see what our competitors came out with at the show and where we had to be for our product to be better. And once we knew what they had, we really pushed on."

According to an industry source who asked that he not be named, Titleist's development of the then-unnamed golf ball continued at a fairly steady pace through the 2000 PGA Merchandise Show in Orlando, Fla.

"But then things really accelerated," Uihlein says. "We had made the decision to wait and see what our competitors came out with at the show and where we had to be for our product to be better. And once we knew what they had, we really pushed on."

According to an industry source who asked that he not be named, Titleist's development of the then-unnamed golf ball continued at a fairly steady pace through the 2000 PGA Merchandise Show in Orlando, Fla.

"But then things really accelerated," Uihlein says. "We had made the decision to wait and see what our competitors came out with at the show and where we had to be for our product to be better. And once we knew what they had, we really pushed on."

According to an industry source who asked that he not be named, Titleist's development of the then-unnamed golf ball continued at a fairly steady pace through the 2000 PGA Merchandise Show in Orlando, Fla.

"But then things really accelerated," Uihlein says. "We had made the decision to wait and see what our competitors came out with at the show and where we had to be for our product to be better. And once we knew what they had, we really pushed on."

According to an industry source who asked that he not be named, Titleist's development of the then-unnamed golf ball continued at a fairly steady pace through the 2000 PGA Merchandise Show in Orlando, Fla.

"But then things really accelerated," Uihlein says. "We had made the decision to wait and see what our competitors came out with at the show and where we had to be for our product to be better. And once we knew what they had, we really pushed on."

with the Pro V1 currently replacing the Pro V1X. The Pro V1X is the current model of the ball, and it is the most advanced ball in the Pro V1 line. The Pro V1X is the most advanced ball in the Pro V1 line.

"But then things really accelerated," Uihlein says. "We had made the decision to wait and see what our competitors came out with at the show and where we had to be for our product to be better. And once we knew what they had, we really pushed on."

According to an industry source who asked that he not be named, Titleist's development of the then-unnamed golf ball continued at a fairly steady pace through the 2000 PGA Merchandise Show in Orlando, Fla.

"But then things really accelerated," Uihlein says. "We had made the decision to wait and see what our competitors came out with at the show and where we had to be for our product to be better. And once we knew what they had, we really pushed on."

According to an industry source who asked that he not be named, Titleist's development of the then-unnamed golf ball continued at a fairly steady pace through the 2000 PGA Merchandise Show in Orlando, Fla.

"But then things really accelerated," Uihlein says. "We had made the decision to wait and see what our competitors came out with at the show and where we had to be for our product to be better. And once we knew what they had, we really pushed on."

According to an industry source who asked that he not be named, Titleist's development of the then-unnamed golf ball continued at a fairly steady pace through the 2000 PGA Merchandise Show in Orlando, Fla.

"But then things really accelerated," Uihlein says. "We had made the decision to wait and see what our competitors came out with at the show and where we had to be for our product to be better. And once we knew what they had, we really pushed on."

According to an industry source who asked that he not be named, Titleist's development of the then-unnamed golf ball continued at a fairly steady pace through the 2000 PGA Merchandise Show in Orlando, Fla.

"But then things really accelerated," Uihlein says. "We had made the decision to wait and see what our competitors came out with at the show and where we had to be for our product to be better. And once we knew what they had, we really pushed on."

According to an industry source who asked that he not be named, Titleist's development of the then-unnamed golf ball continued at a fairly steady pace through the 2000 PGA Merchandise Show in Orlando, Fla.

"But then things really accelerated," Uihlein says. "We had made the decision to wait and see what our competitors came out with at the show and where we had to be for our product to be better. And once we knew what they had, we really pushed on."

PX-722



# Before Introducing the Pro V1, Acushnet Was Facing Obsolescence

This is Wally's note to the team in Las Vegas, telling the V1 story  
To: Bill Morgan, George Sine, Joe Gomes, Mary Lou Bohn  
cc: Ed Abrain, Herb Boehm, Joe Nauman, Dennis Doherty, Dale Shenk, Peg  
Nicholson, Bill Young, Mac Fritz  
Subject: V1-Las Vegas

This is Wally's note to the team in Las Vegas:  
To: Bill Morgan, George Sine, Joe Gomes, Mary Lou Bohn  
cc: Ed Abrain, Herb Boehm, Joe Nauman, Dennis Doherty, Dale Shenk, Peg  
Nicholson, Bill Young, Mac Fritz  
Subject: V1-Las Vegas

ok, the game is on.....

You should already be anticipating next step.  
story be at week's end be as follows:

\*Titleist affirms its position as the #1 ball in golf. Successful launch of  
Titleist ProV1 392 golf ball golf leaves Title  
#1 non wound ball on tour (solid, multi com

This is the story.

FOREWARNED: Both the competition and  
the death of the wound ball! WHY? The com  
media will want to write it this way because  
story.

BULL. \_\_\_\_\_. Written as a wound versus no

And if a brand story is what the media is going to write, then it should be  
that after the competition has fired all of the guns that they have, we are  
still #1 FAR AND AWAY and.....we are both the wound and non wound  
leader on tour. If this story does not get told as such. SHAME ON US

Ed the late 1980's, this is one of those STRATEGIC INFLECTION POINTS/MOMENTS OF TRUTH  
Lo the where the history of the company and the long term viability of the entity is  
thi at risk and in play.  
If a  
con  
has

This is spin time and I am confident that I have the best team possible in  
front of this one.

The fact that the competition has already begun the trash talk ("wound is  
dead", "the ball's too hot", etc. etc), is all the evidence that you need that  
THEY ARE SCARED S\_\_\_\_\_ of what the future holds.

I do not need to put into historical perspective the magnitude of the challenge  
before us. In the genre of the Pro Shop only decision of the 1930's, the  
recovery from the hurricane of '54, the comeback from the 'A' ball introduction  
of 73, the Pinnacle launch of 1980 and the rebuff of the Nippon invasion of the

I do not need to put into historical perspective the magnitude of the challenge  
before us. In the genre of the Pro Shop only decision of the 1930's, the  
recovery from the hurricane of '54, the comeback from the 'A' ball introduction  
of 73, the Pinnacle launch of 1980 and the rebuff of the Nippon invasion of the

PX-1174

# Before Introducing the Pro V1, Acushnet Was Facing Obsolescence

This is Wally's note to the team in Las Vegas, telling the V1 story  
To: Bill Morgan, George Sine, Joe Gomes, Mary Lou Bohm  
cc: Ed Ahern, Herb Boehm, Joe Nauman, Dennis Doherty, Dale Shenk, Peg  
Nicholson, Bill Young, Mac Fritz  
Subject: V1-Las Vegas

ok, the game is on.....

You should already be  
story be at week's end

\*Titleist affirms its po  
Titleist ProV1 392 gy  
#1 non wound ball of

This is the story.

FOREWARNED; Be  
the death of the wound  
media will want to w  
story.

BULL \_\_\_\_\_. Written

And if a brand story  
that after the competi  
still #1 FAR AND AW  
leader on tour. If this story does not get told as such, SHAME ON US.

Ed Ahern, I want Sirak, Nugent/Gardner/Seam and Adam Barr called today with  
the tidbits shown below and the themes expressed above.

Loc, George and Joe.....you need to be sure that the media is headed  
this way during your briefings.

If on Thursday/Friday or in next week's tabloids this week's Normandy landing  
counter attack reads like our funeral rather than our finest hour, then we all  
have some explaining to do to 5000 fellow associates.

This is spin time and I am confident that I have the best team possible in  
front of this one.

The fact that the competition has already begun the trash talk ("wound is  
dead", "the ball's too hot", etc. etc), is all the evidence that you need that  
THEY ARE SCARED S \_\_\_\_ of what the future holds.

I do not need to put into historical perspective the magnitude of the challenge  
before us. In the genre of the Pro Shop only decision of the 1930's, the  
recovery from the hurricane of '54, the comeback from the 'A' ball introduction  
of '73, the Pinnacle launch of 1980 and the rebuff of the Nippon invasion of the

The next two to three years will be the most critical years that we will, as  
individuals, will experience as part of this company's history.

Twenty, Thirty and Forty years from now when the story is told as to how we  
looked down the gun barrel of potential technological obsolescence, refused to  
blink and then prevailed with faster guns and better shots will be the stuff  
that legends grow from.

PX-1174



# Golfweek: "Titleist's Big Makeover"

## Titleist's big makeover

### Inside Look: Titleist's big makeover

BY JOHN MCGINNESS

**PROFESSIONAL, WASH.**  
The place was up in the mountains of the Pacific Northwest, in the heart of the forest. The place was quiet, and the place was beautiful.

The place was quiet, and the place was beautiful. The place was quiet, and the place was beautiful. The place was quiet, and the place was beautiful. The place was quiet, and the place was beautiful.

The place was quiet, and the place was beautiful. The place was quiet, and the place was beautiful. The place was quiet, and the place was beautiful. The place was quiet, and the place was beautiful.

The place was quiet, and the place was beautiful. The place was quiet, and the place was beautiful. The place was quiet, and the place was beautiful. The place was quiet, and the place was beautiful.

The place was quiet, and the place was beautiful. The place was quiet, and the place was beautiful. The place was quiet, and the place was beautiful. The place was quiet, and the place was beautiful.

The place was quiet, and the place was beautiful. The place was quiet, and the place was beautiful. The place was quiet, and the place was beautiful. The place was quiet, and the place was beautiful.

The place was quiet, and the place was beautiful. The place was quiet, and the place was beautiful. The place was quiet, and the place was beautiful. The place was quiet, and the place was beautiful.

### Titleist

It was a quiet, beautiful place. The place was quiet, and the place was beautiful. The place was quiet, and the place was beautiful. The place was quiet, and the place was beautiful. The place was quiet, and the place was beautiful.

The place was quiet, and the place was beautiful. The place was quiet, and the place was beautiful. The place was quiet, and the place was beautiful. The place was quiet, and the place was beautiful.

The place was quiet, and the place was beautiful. The place was quiet, and the place was beautiful. The place was quiet, and the place was beautiful. The place was quiet, and the place was beautiful.

The place was quiet, and the place was beautiful. The place was quiet, and the place was beautiful. The place was quiet, and the place was beautiful. The place was quiet, and the place was beautiful.



How the Titleist put ball is not easy to watch during a game.

The place was quiet, and the place was beautiful. The place was quiet, and the place was beautiful. The place was quiet, and the place was beautiful. The place was quiet, and the place was beautiful.

Titleist management began grappling with whether to undertake a vast conversion of much of its wound-ball production capability—even before the success of the Pro V1 was assured—that would end up costing \$15 million.

"There were a number of days when we had cottonmouth and tight underwear," says Wally Uihlein, the chief executive officer of Acushnet Co., the parent of Titleist. "The anxiety level was extremely high because we were betting the farm on the success of this ball. We essentially elected to obsolete ourselves in a very important area and put everything behind the Pro V1."

PX-722

# Golfweek: "Titleist's Big Makeover"



## Titleist's big makeover

But the consumer response to Pro V1 did not give Titleist that luxury of time, and the company feverishly began converting urethane-cover production to that new ball.

"Yes, we were very confident about this ball because we were getting a lot of enthusiastic feedback from our Tour players," Uihlein says. "Still, it was a challenging process, and the speed at which this all took place is unprecedented, especially as it related to increasing capacity to meet the demand. I think it is the most massive paradigm shift ever seen in the golf ball category, and certainly the most intense and accelerated one in any product category I've ever witnessed."

PX-722



# **The Pro V1 Has Been Extremely Successful**

**Question for you:**

**Was this success due in part to the patented technology, or not?**

# Before Sullivan Patents Issued, Acushnet Emphasized the Patented Technology

## Objectives

- Demonstrate the multi-component construction to match the myth that Titleist is the
- Partly and present our worldwide #1 ball construction technology to complement our
- Enhance Titleist's reputation as the leader in construction categories by emphasizing the
- receive patents for this new large core, or
- Deliver products optimized for distance
- Affirm the superior performance by the
- the worldwide professional tour.
- Capitalize on the success of the Unidure
- share in On/Off channels at the expense
- Simulate ball among competitive high
- Titleist golf ball users.

## Golfers Audience

1. Current competitive golf ball users:
  - Callaway Red
  - Callaway Blue
  - Nike Tour Accuracy
  - Bridgestone Precept Tour Pro
  - Srixon Tour Professional
  - Maxfli Revolution
2. Current Titleist users who are not
3. Avid users, serious golfers seeking the
4. High ball/club speed players.

## Positioning

- High performance golf ball targeted to a pro focus on high ball/club speed players seeking:
- Longer distance with driver and long irons
  - Tight ball flight in all wind conditions
  - Higher launching, less swing, flat and
  - Steeper angle of descent with approach
  - *Drop-and-Stop™* performance into the
  - Soft feel (distinctly different from
  - Other and desirable durability

## Packaging

Minimum Price with Copper accents

HIGHLY CONFIDENTIAL - SUBJECT TO PROTECTIVE ORDER

## How does the Pro V1 perform?

And how does this differ from multi-layer or high

## performance wound golf balls?

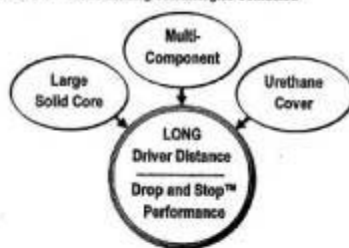
- The exclusive and proprietary large core multi-component and thin Urethane Elastomer technology of the Pro V1 provides a combination of high launch and low driver spin which creates a flatter trajectory to improve distance.
- The Pro V1 produces lower spin with full iron shots for greater distance, however with less than full swings, the very soft urethane elastomer outer surface increases spin and combines with the higher launch to produce a very controlled shot to the green.
- The Pro V1 design combines the short game control of a soft covered high performance golf ball with the driver distance of a solid distance ball.
- The Pro V1 differs from multi-layer golf balls in that the very soft urethane elastomer outer surface increases spin and combines with the inherent steep angle of descent to create a *Drop-and-Stop™* type of shot into the green.
- High performance wound balls offer a softer feel, and higher spin off the driver, long and mid-irons, allowing better players the ability to "work" their shots more efficiently. Solid construction golf balls generally deliver lower spin and longer distance off the driver, long and mid irons and a higher trajectory and steeper angle of descent into the greens.

PX-1116



# Before Sullivan Patents Issued, Acushnet Emphasized the Patented Technology

Pro V1 Three Leading Technologies Combined



U.S. Patent 5,885,172

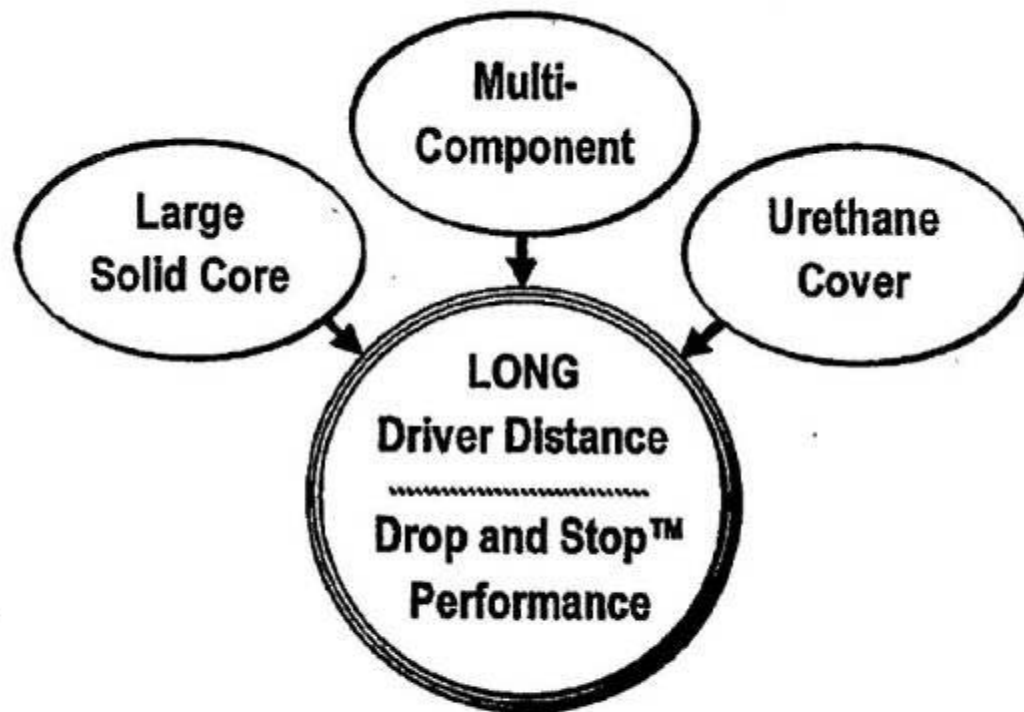


- Multilayer Golf Ball with a Thin Thermoset Outer Layer
- Filed May 27, 1997
- Issued March 23, 1999

HIGHLY CONFIDENTIAL - SUBJECT TO PROTECTIVE ORDER

PX-583

Pro V1 Three Leading Technologies Combined



# Before Sullivan Patents Issued, Acushnet Emphasized the Patented Technology

Pro V1 Three Leading Technologies Combined



U.S. Patent 5,885,172



- Multilayer Golf Ball with Thin Thermoset Outer Layer
- filed May 27, 1997
- Issued March 23, 1999

HIGHLY CONFIDENTIAL - SUBJECT TO PROTECTIVE ORDER

## U.S. Patent 5,885,172



- Multilayer Golf Ball with a Thin Thermoset Outer Layer
- filed May 27, 1997
- Issued March 23, 1999

ACUSHNET CORP.

PX-583



# Acushnet Advertisement in Golfweek Magazine



## ACUSHNET COMPANY

Wally Uthlein  
Chairman and Chief Executive Officer

August 2001

ACUSHNET COMPANY  
July 2001  
Chairman and Chief Executive Officer

Dear Legend Golfers,

As you undoubtedly know, the introduction of the Titleist Pro V1 golf ball has been an unprecedented success. Since its tour debut in October 2000, the Titleist Pro V1 has been the #1 ball on the worldwide professional tours. With this groundswell of tour usage and acceptance, word of Titleist's new high-performance golf ball quickly traveled to players everywhere and demand grew prior to it even being introduced to the marketplace. As a result, we accelerated our planned introduction date by four months, the timing of which did not allow us to build adequate inventory to address the overwhelming consumer demand that would soon follow.

Our manufacturing facilities have been working overtime since the December 2000 marketplace introduction in an effort to supply golf shops with ample Pro V1 inventory. We have had to allocate Pro V1 shipments among all of our valued customers to ensure that each has at least a minimum supply. Unfortunately, we have not been able to meet the demand for Pro V1 in all areas, and we are currently working on ways to increase our production capacity.

We want to thank you for your understanding and patience while we take the necessary steps to meet the Pro V1 placement demand. This demand has exceeded the Titleist Pro V1 in an on and off course combined market share of over 20% (over 200 Titleist Golf Clubs), making it the most widely used golf ball in the industry. We would like to thank you for your continued support and loyalty, and we are committed to a rapidly improving inventory position for the Pro V1.

Our associates have been working a 24-hour per day, 7-day per week Pro V1 production schedule. Dedicated work crews have continued production through the Memorial Day and Fourth of July holidays as well as during Titleist's traditional two week summer manufacturing shutdown for the first time in company history. The \$1.6 million in overtime and other expenses have delivered an incremental 250,000 dozen Pro V1 golf balls which otherwise would not have been available for sale.

We're investing an additional \$14 million in capital equipment, both in core expansion and urethane elastomer capacity. This significant capital investment will contribute to our expanded capacity this fall as well as prepare us for future demand.

To supply Titleist's 2001 worldwide retail partners in 2001, our year-end manufacturing output of the Pro V1 will reach 3 million dozen, a new 20% increase over last year's record urethane elastomer golf ball output.

On behalf of all Titleist associates, we thank you for making the Pro V1 your golf ball of choice and the best-selling golf ball in the market. Once again, we appreciate your understanding and support.

Sincerely,

Wally Uthlein

Titleist

PO Box 965

Fairhaven, MA 02719-0965

Sincerely,

Wally Uthlein

Titleist

PO Box 965

Fairhaven, MA 02719-0965

As you undoubtedly know, the introduction of the Titleist Pro V1 golf ball has been an unprecedented success. Since its tour debut in October 2000, the Titleist Pro V1 has been the #1 ball on the worldwide professional tours. With this groundswell of tour usage and acceptance, word of Titleist's new high-performance golf ball quickly traveled to players everywhere and demand grew prior to it even being introduced to the marketplace. As a result, we accelerated our planned introduction date by four months, the timing of which did not allow us to build adequate inventory to address the overwhelming consumer demand that would soon follow.

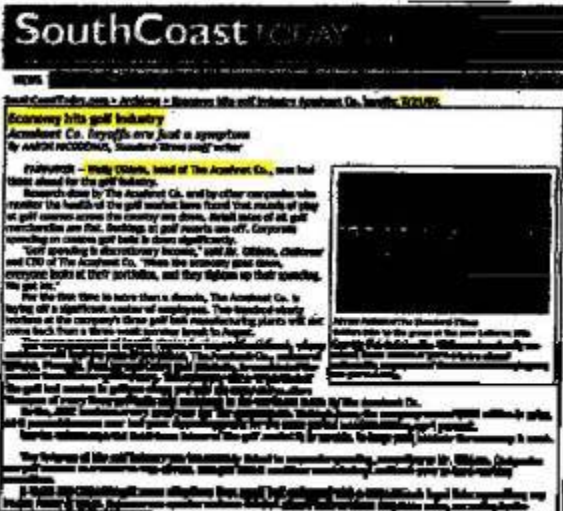
Our manufacturing facilities have been working overtime since the December 2000 marketplace introduction in an effort to supply golf shops with ample Pro V1 inventory. We have had to allocate Pro V1 shipments among all of our valued customers to ensure that each has at least a minimum supply.

- Our associates have been working a 24-hour per day, 7-day per week Pro V1 production schedule. Dedicated work crews have continued production through the Memorial Day and Fourth of July holidays as well as during Titleist's traditional two week summer manufacturing shutdown for the first time in company history. The \$1.6 million in overtime and other expenses have delivered an incremental 250,000 dozen Pro V1 golf balls which otherwise would not have been available for sale.
- We're investing an additional \$14 million in capital equipment, both in core expansion and urethane elastomer capacity. This significant capital investment will contribute to our expanded capacity this fall as well as prepare us for future demand.

PX-1195

# SouthCoast Today

JULY 21, 2002



**Economy hits golf industry**  
**Acushnet Co. layoffs are just a symptom**  
 By AARON NICODEMUS, Standard-Times staff writer

FAIRHAVEN -- Wally Uihlein, head of The Acushnet Co., sees bad times ahead for the golf industry.

**The Pro V1 saved this company," said Mr. Uihlein.** When demand for that golf ball took off in 2000, the company added equipment and employees. With the layoffs, the company's total number of employees is back to where it was in 2000, at 2,086, he said.



PX-723

# **EXHIBIT 5**



IN THE UNITED STATES DISTRICT COURT  
FOR THE DISTRICT OF DELAWARE

CALLAWAY GOLF COMPANY,

Plaintiff,

v.

ACUSHNET COMPANY,

Defendant.

C. A. No. 06-91 (SLR)

**EXPERT REPORT OF WILLIAM M. RISEN, JR.**

**I. PERSONAL BACKGROUND**

1. I am a Professor of Chemistry at Brown University. I have been retained by Callaway Golf as a consultant and expert witness in this case.
2. I have worked in the areas of ionomers, polyurethanes, molecular spectroscopy, organometallic chemistry, physical-inorganic chemistry, aerogels, quantized ion motion in condensed phases, and solid state chemistry. Based on my experience and education, I believe I am an expert in the chemistry and materials science of polymers and other amorphous materials.
3. I have been employed as a research and development consultant in the golf ball industry, in various capacities, for about 20 years. Based on this experience, I believe I possess expertise in the field of golf ball design.
4. I graduated from Georgetown University in 1962 with a B.S. in chemistry. I earned a Ph.D. in chemistry from Purdue University in 1967. I was a Research Fellow-Instructor at Brown University in 1966-1967. I was an Assistant Professor of Chemistry at Brown University 1967 to 1972. I was an Associate Professor of Chemistry at Brown University from 1972 to 1975. I have been a Professor of Chemistry at Brown University since 1975. From 1972 to 1980 I served as the chairman of the Department of Chemistry at Brown University.
5. I received a Foreign Invitational Fellowship from the Japan Society for the Promotion of Science for 2002-2003.
6. I was a Visiting Professor at McGill University in Montreal, Canada in 1991-1992.
7. In 1998, I was a Visiting Scientist at the Paul Scherrer Institute of ETH-Zurich and the Swiss Federal Science Foundation.



- |  |   |
|--|---|
|  | <ul style="list-style-type: none"> <li>• the thickness of the outer cover layer.</li> </ul> |
|--|---|

129. I have been advised that, when considering the validity of a claim, the claim must be considered as a whole, that is, in view of all the claim's limitations and not just some subset of them. Thus, I do not believe that the BPAI's rejection of the broad claims at issue in the *Ex Parte Sullivan* appeal establishes that Nesbitt '193, or Wu '673, or the combination of the two, has any effect on the validity of the narrower claims at issue in this litigation.

130. Significantly, none of the claims at issue in *Ex Parte Sullivan* included limitations on outer-cover Shore D hardness. Accordingly, the BPAI made no determination as to whether Nesbitt '193 or Wu '673 expressly or inherently discloses such a limitation.

131. Likewise, none of the claims at issue in *Ex Parte Sullivan* recited a blend of ionomers or a blend of low-acid ionomers. Thus, the BPAI's decision does not suggest that either of these limitations is expressly or inherently disclosed by Nesbitt '193, Wu '673, or the combination of those references.

**(e) Acushnet's Statement to the Patent Office Regarding  
Materiality of Nesbitt '193 and Wu '673**

132. Finally, I note that Acushnet, when prosecuting its '172 patent, which claims the same urethane-over-ionomer construction as the patents-in-suit, told the Patent Office that Nesbitt '193 nor Wu '673 was "material" to patentability. (See para. 206 below.) If the '193 and '673 patents were not "material" to the patentability of the '172 claims, then they cannot be "material" to any of the urethane-over-ionomer claims asserted in this lawsuit – that is, neither can show, either by itself or in combination with other references, that these claims are anticipated or obvious.

**3. Nesbitt '193 + Molitor '751**

133. I believe that combining the Nesbitt '193 and Molitor '751 patents to achieve the claimed invention would not have been obvious to one of ordinary skill in the art. I also believe that the inventions described in the asserted claims of the patents-in-suit would not have been recognized as the predictable result of such a combination. Therefore, I believe this combination does not render any of the asserted claims obvious.

**(a) No Express or Inherent Disclosure of Outer Cover Shore D  
Hardness of 64 or Less**

134. Neither Nesbitt '193 nor Molitor '751 expressly discloses a Shore D hardness for any composition.

135. I disagree with Dr. Statz's assertion that the limitation of an "outer cover layer having a Shore D hardness of 64 or less" is met through inherency.

**(i) Plaque Hardness is Not Representative of or Predictive  
of Outer Cover Layer Hardness**

136. As discussed above, the plaque hardness of the Surlyn 1855 disclosed in the Nesbitt patent is not representative of or predictive of the Shore D hardness that such a composition would exhibit as the outer cover layer of a three (or more)-piece golf ball. (See para. 72 above.)

**(ii) The Disclosure of a Shore C Hardness Does Not  
Inherently Disclose a Shore D Hardness**

137. Dr. Statz argues that Molitor '751 does disclose an outer cover layer comprising polyurethane and having a Shore D hardness of 64 or less. (Statz ¶ 92.) Although Molitor lacks any express disclosure of Shore D hardness, Dr. Statz argues that the patent discloses a preferred cover hardness of 72 to 76 on the Shore C scale," and that a cover with this Shore C hardness "will certainly have a Shore D hardness of well below 64." (Statz ¶ 92.)

138. In other words, Dr. Statz is arguing that a cover with a Shore C hardness of 72 inherently has a Shore D hardness of 64 or less. I disagree – I do not believe that, given the certainty required under the legal principle of inherency, that a disclosing a Shore C hardness inherently discloses a Shore D hardness.

139. As mentioned above (para. 62), the ASTM D-2240 specification expressly warns against trying to convert between Shore C and Shore D, or between any other hardness scales:

This test method is based on the penetration of a specific type of indenter when forced into the material under specified conditions. The indentation hardness is inversely related to the penetration and is dependent on the viscoelastic behavior of the material. The shape of the indenter and the applied force influence the results obtained so there may be no simple relationship between the results obtained with one type of durometer and those obtained with another type of durometer or other instruments used for measuring hardness. This test method is an empirical test intended primarily for control purposes. No simple relationship is known to exist between indentation hardness determined by this test method and any fundamental property of the material tested.

(ASTM D-2240 (1995) section 4.1 (emphasis added).)

140. The 1995 edition of ASTM D-2240 included a "durometer scale comparison chart," but cautioned that "This is not and cannot be used as a conversion reference":

**NOTE 2—Durometer scale comparison chart only. This is not and cannot be used as a conversion reference.**

Type A	10	20	30	40	50	60	70	80	90	100											
Type B		10	20	30	40	50	60	70	80	90	100										
Type C			10	20	30	40	50	60	70	80	90	100									
Type D				10	20	30	40	50	60	60	70	80	90	100							
Type DO				10	20	30	40	50	60	70	80	90	100								
Type O					10	20	30	40	50	60	70	80	90	100							
Type OO	10	20	30	40	50	60	70	80	90	100											

(ASTM D-2240 (1995) section 4.1.)

141. A person of ordinary skill in the art would thus understand D-2240 to prohibit converting a hardness from one Shore scale to another, and certainly would not purport to do so with the level of certainty required to opine that a Shore C hardness measured on the cover of a golf ball "necessarily" equates to a particular Shore D hardness.

142. As further support for his argument, Dr. Statz refers to a so-called "comparison chart" from the Rex Gauge company that was cited in the prosecution of the '873 patent. (Statz ¶ 92(c).) The Rex Gauge chart, however, contains the same warning as the D-2240 standard – that "This is not and cannot be used as a conversion chart."

Appendix B

Comparison Chart																
This chart is for comparison purposes only. This is not and cannot be used as a conversion chart.																
A																
	10	20	30	40	50	60	70	80	90	100						
B																
		10	20	30	40	50	60	70	80	90	100					
C																
			10	20	30	40	50	60	70	80	90	100				
D																
				10	20	30	40	50	60	70	80	90	100			
DO																
					10	20	30	40	50	60	70	80	90	100		
O																
						10	20	30	40	50	60	70	80	90	100	
OO																
							10	20	30	40	50	60	70	80	90	100
M																
								30	40	50	60	70	80	90		

© 2001 Rex Gauge Company, Inc. all rights reserved  
1250 Busch Pkwy Buffalo Grove IL 60089  
Toll Free 1-800-827-3882 | Phone 847-465-8009 | International 011 01 847-465-8009  
Fax 847-465-8229 | E-mail info@durometer.com

A division of Schullco Precision Manufacturing, Inc.

(CW309061.)

143. Given that both the 1995 ASTM D-2240 specification and the 2001 Rex Gauge chart expressly disapprove of attempts to correlate Shore C and Shore D hardness, and that no general formula is known for such a conversion, I do not believe that a golf ball measured as having an outer-cover Shore C hardness of 72 would inevitably and necessarily exhibit an outer-cover Shore D hardness of 64 or less. Even if this property were inherent, I do not believe a person of ordinary skill in the art would have known of that inherency.

144. Other evidence cited by Dr. Statz does not dissuade me from this conclusion.

145. Dr. Statz claims that Table 19 of Callaway Golf's U.S. Patent No. 6,905,648 "shows that a Shore C hardness of 73 correlates to a Shore D hardness of 47." (Statz ¶ 92(b).) I disagree. This data does not imply that Shore C values can be accurately translated into Shore D values, or that a sample with a Shore C hardness of 73 inevitably and necessarily has a Shore D hardness of 47.

The only conclusion that can reasonably be drawn from these two measurements is that a certain sample of Hytrel G-4074 exhibited a Shore C hardness of 73 and a Shore D hardness of 47. I also note that this pair of measurements illustrates the unreliability of the Rex Gauge and D-2240 "comparison charts," which, if used to predict Shore D from Shore C, would correlate a Shore C hardness of 70 or more to a Shore D hardness of 50 or more. (See paras. 140, 142 above.)

146. Dr. Statz also writes that the patents-in-suit give a "translation" between Shore C and Shore D by stating that the outer cover layer preferably "has a Shore D hardness of about 45 (i.e. Shore C hardness of about 65)." (Statz ¶ 92(a), citing '293 patent col. 3:49-54.) The text cited from the '293 patent is not an example of a "translation" between Shore C and Shore D. At most, it suggests that an outer cover with a Shore D hardness of "about" 45 might possibly exhibit a Shore C hardness of "about" 65. This text does not indicate that a cover such as that discussed in Molitor '751 with a Shore C hardness of 72 will inevitably and necessarily have a Shore D hardness of 64 or less.

147. Dr. Statz relies on a declaration submitted by Mark Binette in support of a Callaway Golf patent application in which Mr. Binette refers to Shore C and Shore D measurements of certain ionomer-over-ionomer golf balls. (Statz ¶ 92(e), citing 7/22/97 Binette Decl. from prosecution history of U.S. Patent No. 5,803,831.) These values, says Dr. Statz, indicate "a correlation between Shore C of 75 and Shore D of 49, and between Shore C of 72 and Shore D of 48." (Statz ¶ 92(e).) These measurements, however, do not establish a general or universal "correlation" between Shore C and Shore D measurements. All they show is that certain ionomer-over-ionomer golf balls exhibited certain Shore C hardnesses and certain Shore D hardnesses. Mr. Binette's data does not show that a polyurethane cover such as that discussed in Molitor '751 with a Shore C hardness of 72 will inevitably and necessarily have a Shore D hardness of 64 or less. And again, as in the "Table 19" discussion above, I note that this pair of measurements shows the unreliability of the Rex Gauge and D-2240 "comparison charts" – if either chart were used to predict Shore D from Shore C, it would correlate a Shore C hardness of 70 or more to a Shore D hardness of 50 or more. (See paras. 140, 142 above.)

148. Dr. Statz additionally relies on a chart he says Du Pont provides "for the purpose of translating Shore hardness measurements," which, he claims, "shows that Shore C measurements of 77 or less translate to a Shore D of 58 or less." (Statz ¶ 92(d), citing Ex. O to Acushnet's Comments to Callaway Golf's Response to Office Action in the reexamination proceedings.) I note, however, that this chart expressly states that "CONVERSIONS ARE APPROXIMATE" and "VALUES DEPENDENT ON GRADES AND CONDITIONS OF MATERIALS INVOLVED." I further note that the chart does not specify what materials its "durometer conversion" table supposedly applies to. Therefore, I believe this chart shows, at most, that a material that exhibits a Shore C measurement of 77 or less might possibly exhibit a Shore D hardness of 58 or less. It does not show that a polyurethane cover such as that discussed in Molitor '751 with a Shore C hardness of 72 will inevitably and necessarily have a Shore D hardness of 64 or less.

**(iii) Dr. MacKnight's Golf Balls are Not Proof of Inherency**

149. Dr. Statz cites, as further support for his theory of inherency, outer-cover Shore D measurements of golf balls Dr. MacKnight created for this litigation. (Statz ¶ 93.) Supposedly, these balls comprise:

- a core made from a composition described in the Nesbitt patent (MacKnight ¶ 8);
- an inner cover layer made from either a single-ionomer composition described in the Nesbitt patent (MacKnight ¶ 10), or a blended-ionomer composition described in the Molitor '637 patent (MacKnight ¶ 11); and
- an outer cover made from a polyurethane-ionomer composition described in the Molitor '751 patent, except that Surlyn 1605 (8940) was substituted for Surlyn 1702 (9970) (MacKnight ¶ 15).

At this time, I have no way of knowing whether these balls are or are not what Dr. MacKnight has represented them to be, but, for the purpose of this report, I will assume that they are.

150. The materials and cover thicknesses used in these two types of balls represent only two possible combinations of the materials and thicknesses collectively disclosed by Nesbitt '193 and Molitor '751. Therefore, the hardness properties these balls exhibit are not the inevitable result of combining these two references.

151. Thus, I do not believe that a ball made from the combination of Nesbitt '193 and Molitor '751 would inevitably and necessarily have an outer cover having a Shore D hardness of 64 or less.

152. Even if this hardness were inherent to the outer cover of such a ball, I do not believe that, at the time of Sullivan's invention, a person of ordinary skill in the art would have known of that inherency. At best, such a person could only recognize a possibility or probability that a golf ball made from this combination of references might have a Shore D hardness of 64 or less.

153. I therefore believe that, in Acushnet's obviousness arguments regarding the combination of these references, the limitation of "an outer cover having a Shore D hardness of 64 or less" cannot be met through inherency.

154. Also, if Molitor '637 is not incorporated by reference into Nesbitt '193, the combination of Nesbitt and Molitor '751 does not disclose an inner cover layer comprising a blend of two or more ionomers or a blend of two or more low-acid ionomers, in which case the combination of Nesbitt and Molitor '751 cannot invalidate any claim that includes either of those limitations.

155. Additionally, as noted above (para. 109), Nesbitt teaches away from using a polyurethane outer cover, suggesting that ionomer covers are preferable. This teaching would discourage a person of skill in the art from using the polyurethane-ionomer cover of Molitor '751 in a Nesbitt-type multi-layer ball.

**(b) Acushnet's Statement to the Patent Office Regarding the Materiality of Nesbitt '193**

156. Finally, I note that Acushnet, when prosecuting its '172 patent, which claims the same urethane-over-ionomer construction as the patents-in-suit, told the Patent Office that Nesbitt '193



177. I therefore believe that, in Acushnet's obviousness arguments regarding the combination of these references, the limitation of "an outer cover having a Shore D hardness of 64 or less" cannot be met through inherency.

**(b) Acushnet's Statement to the Patent Office Regarding the Materiality of Proudfit '187 and Wu '673**

178. Finally, I note that Acushnet, when prosecuting its '172 patent, which claims the same urethane-over-ionomer construction as the patents-in-suit, told the Patent Office that Proudfit '187 and Wu '673 were not "material" to patentability. (See para. 206 below.) If the '187 and '673 patents were not "material" to the patentability of the '172 claims, then neither can be "material" to any of the urethane-over-ionomer claims asserted in this lawsuit – that is, neither of these references can show, either by itself or in combination with other references, that these claims are anticipated or obvious.

**6. Proudfit + Molitor '751**

179. I believe that combining the Proudfit '187 and Molitor '751 patents to achieve the claimed invention would not have been obvious to one of ordinary skill in the art. I also believe that the inventions described in the asserted claims of the patents-in-suit would not have been recognized as the predictable result of such a combination. Therefore, I believe this combination does not render any of the asserted claims obvious.

**(a) No Express or Inherent Disclosure of Outer Cover Shore D Hardness of 64 or Less**

180. Neither Proudfit '187 nor Wu '673 expressly discloses a Shore D hardness for any composition.

181. I disagree with Dr. Statz's assertion that the limitation of an "outer cover layer having a Shore D hardness of 64 or less" is met through inherency.

**(i) Proudfit's Disclosure of a Balata Outer Cover Does Not Inherently Disclose an Outer-Cover Shore D Hardness**

182. As discussed above (para. 85), I disagree that a person of skill in the art would have regarded Proudfit's disclosure of "an outer layer of soft material such as balata or a blend of balata and other elastomers" as an inherent disclosure of an outer cover layer with a Shore D hardness of 64 or less.

**(ii) The Disclosure of a Shore C Hardness Does Not Inherently Disclose a Shore D Hardness**

183. As discussed in paragraphs 137-148 above, regarding the combination of Nesbitt '193 and Molitor '751, I do not believe that a golf ball measured as having an outer-cover Shore C hardness of 72 would inevitably and necessarily exhibit an outer-cover Shore D hardness of 64



or less. Even if this property were inherent, I do not believe a person of ordinary skill in the art would have known of that inherency.

**(iii) Dr. MacKnight's Golf Balls are Not Proof of Inherency**

184. Dr. Statz relies on, as alleged proof of inherency, outer-cover Shore D measurements of a golf ball Dr. MacKnight created for this litigation. (Statz ¶ 113.) Supposedly, this ball comprises:

- a core made from a composition described in the Proudfit '187 patent (MacKnight ¶ 9);
- an inner cover layer made from a blended-ionomer composition described in the Proudfit '187 patent (MacKnight ¶ 12); and
- an outer cover made from a polyurethane-ionomer composition described in the Molitor '751 patent, except that Surlyn 1605 (8940) was substituted for Surlyn 1702 (9970) (MacKnight ¶ 15).

At this time, I have no way of knowing whether this ball is or is not what Dr. MacKnight has represented it to be, but, for the purpose of this report, I will assume that it is.

185. The materials and cover thicknesses used in this ball represent only one possible combination of the materials and thicknesses collectively disclosed by Proudfit '187 and Molitor '751. Therefore, the hardness properties this ball exhibits are not the inevitable result of combining these two references.

186. Thus, I do not believe that a ball made from the combination of Proudfit '187 and Molitor '751 would inevitably and necessarily have an outer cover having a Shore D hardness of 64 or less.

187. Even if this hardness were inherent to the outer cover of such a ball, I do not believe that, at the time of Sullivan's invention, a person of ordinary skill in the art would have known of that inherency. At best, such a person could only recognize a possibility or probability that a golf ball made from this combination of references might have a Shore D hardness of 64 or less.

188. I therefore believe that, in Acushnet's obviousness arguments regarding the combination of these references, the limitation of "an outer cover having a Shore D hardness of 64 or less" cannot be met through inherency.

**(b) Acushnet's Statement to the Patent Office Regarding the Materiality of Proudfit '187**

189. Finally, I note that Acushnet, when prosecuting its '172 patent, which claims the same urethane-over-ionomer construction as the patents-in-suit, told the Patent Office that Proudfit '187 was not "material" to patentability. (See para. 206 below.) If the '187 patent was not "material" to the patentability of the '172 claims, then it cannot be "material" to any of the urethane-over-ionomer claims asserted in this lawsuit – that is, it cannot show, either by itself or in combination with other references, that these claims are anticipated or obvious.

**7. Wilson Ultra Tour Balata + Titleist Professional or Titleist Professional 2P**

were redesigned for the 2007 versions of those products. (Bellis ¶ 77.) Mr. Bellis also states that the 2007 Pro V1x has a softer cover than before. (Bellis ¶ 77.)

303. Thus, although Acushnet has implemented various changes to the Pro V1 balls since their introduction, Acushnet has never changed the design in a way that would avoid infringement of the patents-in-suit.

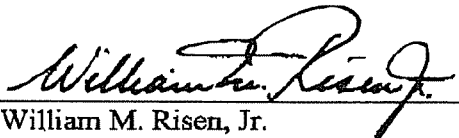
304. Dr. Statz explains that Acushnet obtained opinions of counsel stating that the patents-in-suit were invalid, and that Acushnet has consequently felt it unnecessary to design around those patents. (Statz ¶ 271.) I do not see how Acushnet could reasonably have relied on these opinions, however, since Acushnet has successfully prosecuted patent claims on a urethane-over-ionomer multi-layer construction that are very similar to the claims of the patents-in-suit. (See paras. 198-209 above.)

305. Given that Acushnet could not have reasonably believed that the patents-in-suit were invalid, that the Pro V1 balls infringe these patents, and that infringement of these patents carries the risk of sizable liability, I have to assume that Acushnet would design around the patents if it were possible to do so without losing the performance advantages the patented technology confers.

### VIII. CONCLUSION

306. I reserve the right to rebut any arguments or evidence offered in response to this report, and to supplement this report based on newly presented evidence or further analysis. I also reserve the right to supplement or amend this report based on the Court's construction of the patents-in-suit. I also intend to use graphics and/or demonstrative exhibits to illustrate some of the facts and opinions I have stated here.

Dated: July 6, 2007

  
William M. Risen, Jr.

# **EXHIBIT 6**

IN THE UNITED STATES DISTRICT COURT  
FOR THE DISTRICT OF DELAWARE

CALLAWAY GOLF COMPANY,  
Plaintiff,

vs.

Civil Action No.  
06-91 (SLR)

ACUSHNET COMPANY,  
Defendant.

---

VIDEOTAPED DEPOSITION OF R. JAMES GALIPEAU,  
called by counsel for the Plaintiff, taken  
pursuant to the Federal Rules of Civil Procedure  
before Leigh B. Gershowitz, Certified Shorthand  
Reporter, Registered Merit Reporter, Certified  
Realtime Reporter and Notary Public, at the Crowne  
Plaza, One West Street, Pittsfield, Massachusetts  
01201, on Wednesday, October 17, 2007, commencing at  
12:00 p.m.

JOB NO. 74968

1 APPEARANCES:

2  
3 FOR THE PLAINTIFF:

4 FISH & RICHARDSON, P.C.

5 12390 El Camino Real

6 San Diego, California 92130-2081

7 (858) 678-5070

8 BY: DAVID S. SHUMAN, ESQUIRE

9  
10 FOR THE DEFENDANT:

11 HOWREY LLP

12 1299 Pennsylvania Avenue, N.W.

13 Washington, D.C. 20004-2402

14 (202) 383-7108

15 BY: KENNETH W. DONNELLY, ESQUIRE

16  
17 ALSO PRESENT:

18 JOANNE YACOVONE, Videographer

## I N D E X

WITNESS: DIRECT CROSS REDIRECT RECROSS

R. JAMES GALIPEAU

By Mr. Shuman 6

By Mr. Donnelly

EXHIBITS: DESCRIPTION PAGE

1 Flexural Report 8

\*2 Green box of golf balls labeled  
"Ultra Tour Balata-90" 13

\*3 Box of golf balls labeled  
"Ultra Tour Balata-90" 16

\*4 White box of golf balls 27

5 PTLI 101 through 103 29

6 SPC Check of Shore D 33

7 Certificate of Calibration 36

8 Report from Rubber Program Cycle #153 38

\*RETAINED EXHIBITS



## S T I P U L A T I O N S

It is agreed by and between the parties that all objections, except as to the form of the question, are reserved to be raised at the time of trial for the first time.

It is further agreed by and between the parties that all motions to strike unresponsive answers are also reserved to be raised at the time of trial for the first time.

It is also agreed that the deponent will read and sign the deposition.

It is further agreed by and between the parties that notification to all parties of the receipt of the original deposition transcript is also hereby waived.

## P R O C E E D I N G S

(The proceedings commenced at 12:04 p.m.)

THE VIDEOGRAPHER: Good afternoon.

Here begins media number one and the deposition of James Galipeau in the case of Callaway Golf Company versus Acushnet. The case is in the U.S. District of Delaware, Case Number 06-91 (SLR). Today's date is October 17, 2007. The time is 2:04 p.m. The deposition is being taken at the Crowne Plaza in Pittsfield, Massachusetts and is being taken on behalf of the plaintiff.

The videographer is Joanne Yacovone, appearing on behalf of Sarnoff Legal Technologies located in Irvine, Los Angeles, and San Francisco, California.

Would the attorneys please identify themselves and state whom you represent.

MR. SHUMAN: David Shuman of Fish & Richardson, representing plaintiff, Callaway Golf Company.

MR. DONNELLY: Kenneth Donnelly of Howrey, representing the Acushnet Company and also the witness.

THE VIDEOGRAPHER: Would the court reporter please identify herself and swear in the

1 witness.

2 THE COURT REPORTER: Leigh Gershowitz.

3

4 R. JAMES GALIPEAU

5 a witness called for examination by counsel for the  
6 Plaintiff, being first duly sworn, was examined and  
7 testified as follows:

8

9 DIRECT EXAMINATION

10 BY MR. SHUMAN:

11 Q. Good afternoon, Mr. Galipeau.

12 A. Good afternoon.

13 Q. Could you start by stating your full name  
14 and residential address for the record.

15 A. R. James Galipeau, 56 Elmore Drive in  
16 Dalton, Massachusetts.

17 Q. Mr. Galipeau, have you ever had your  
18 deposition taken before?

19 A. Yes.

20 Q. When was the last time?

21 A. It has to be about ten years ago.

22 Q. What kind of case was that?

23 A. It regarded tensile properties of a  
24 material.

25 Q. Okay. Let me just give you a short

1 overview of how things will proceed this afternoon.  
2 Since you've been through this before, you'll  
3 probably find it's very similar to the last time. I  
4 will try to make my questions as clear as possible.  
5 If you don't understand what I'm asking, please feel  
6 free to tell me that you don't understand and I'll  
7 try to rephrase it. Okay?

8 A. Mm-hmm. Yes.

9 Q. You're represented today by Mr. Donnelly?

10 A. Yes.

11 Q. Okay. So occasionally Mr. Donnelly may  
12 interpose objections to the things that I say, but  
13 it's important that you understand that, unless he  
14 specifically instructs you not to answer, you're  
15 still obligated to give an answer. Okay?

16 A. Yes.

17 Q. You're with PTLI, right?

18 A. Yes.

19 Q. What does PTLI stand for?

20 A. Plastics Technology Laboratories,  
21 Incorporated.

22 Q. How long have you been with PTLI?

23 A. Over 20 years.

24 Q. Do you remember the exact year you joined  
25 them?

1 A. 19 -- December, 1986.

2 Q. What is your current title at PTLI?

3 A. Laboratory manager.

4 Q. How long have you held that title?

5 A. Since 1986.

6 Q. Where were you employed before joining  
7 PTLI?

8 A. General Electric Plastics.

9 Q. What was your job at GE Plastics?

10 A. Marketing technologist.

11 Q. To whom, if anyone, do you report to at  
12 PTLI?

13 A. Jim Beauregard.

14 Q. What's his title?

15 A. President.

16 Q. Who reports directly to you at PTLI?

17 A. All the technicians, the assistant  
18 laboratory manager, and customer service personnel.

19 Q. How many employees does PTLI have right  
20 now?

21 A. Twenty-four people.

22 MR. SHUMAN: Let's mark the first  
23 exhibit. This will be Galipeau 1.

24 (Exhibit No. 1 was marked  
25 for identification.)

1 MR. DONNELLY: If I could interrupt,  
2 there was one document that Mr. Galipeau may not have  
3 included in the production, which is his biography.  
4 So we're making that available for --

5 MR. SHUMAN: Okay. Thank you very  
6 much.

7 MR. DONNELLY: -- production. Just  
8 his biography.

9 MR. SHUMAN: Can we go off the record  
10 for a moment?

11 MR. DONNELLY: Sure.

12 THE VIDEOGRAPHER: Going off the  
13 record at 12:10 p.m.

14 (Discussion off the record)

15 THE VIDEOGRAPHER: Back on the record  
16 at 12:11 p.m.

17 BY MR. SHUMAN:

18 Q. Mr. Galipeau, I'm going to hand you what  
19 we've labeled Galipeau Exhibit 1. Can you take a  
20 look at it and tell me what Exhibit 1 is.

21 A. This is a test report for flexural  
22 properties of plastics per ASTM D790.

23 Q. Okay. That is, the first page is for D790,  
24 correct?

25 A. First, second, third, fourth, and the fifth



1 page of photos deals with that report.

2 Q. Okay. Then beginning on page 131407, as  
3 labeled in the bottom right-hand corner --

4 A. Yes. That's durometer hardness testing  
5 modified per ASTM D2240.

6 Q. On this page, 131407, it says, under "Test  
7 Method," "ASTM D2240-05, modified test specimen, golf  
8 ball." What does "modified test specimen" refer to  
9 there?

10 A. Typically the specimen required for this  
11 test, as specified in ASTM D2240, is a flat specimen  
12 with a minimum thickness of .25 inches.

13 Q. And so the golf ball, because it isn't --  
14 doesn't have that shape, is considered a modified  
15 test specimen?

16 A. Yes. It's a modification of the test  
17 method.

18 Q. Have you ever before used the nomenclature  
19 "modified test specimen" in connection with a D2240  
20 test?

21 A. Yes.

22 Q. On what occasions?

23 A. Many times, when dealing with specimens  
24 that don't meet the geometry, but a customer would  
25 like a relative comparison of hardness between two

1 samples.

2 Q. When a modified test specimen is being  
3 used, is it inaccurate to call the test an ASTM D2240  
4 test?

5 A. Not if you stipulate that it is modified in  
6 the report header.

7 Q. What were the samples being measured in the  
8 documents given to you as Exhibit 1?

9 MR. DONNELLY: Object to the form of  
10 the question. Compound.

11 Are you referring to any -- all of the  
12 documents or --

13 MR. SHUMAN: Well, you're right.  
14 That's kind of a strange question. Let me rephrase  
15 it.

16 BY MR. SHUMAN:

17 Q. Let's turn to page 131407. On that page, I  
18 see the heading "Set 1" and "Set 2," what do those  
19 headings refer to?

20 A. Sets of golf balls.

21 Q. What was the origin of these golf balls?

22 A. They were supplied to us by Acushnet  
23 Company.

24 Q. By whom at Acushnet?

25 A. Troy Lester.

1 Q. Did you also receive samples from Mr. Jeff  
2 Dalton?

3 A. Yes.

4 Q. Flipping ahead a few pages, I see the set  
5 numbers go up to Set 12. Does that reflect that you  
6 received 12 sets of golf balls from Acushnet?

7 A. Yes.

8 Q. Okay. And then on the next page, 131413,  
9 there are two headings, "Wilson Ultra Tour Balata 90  
10 Box 93007," and "Wilson Ultra Tour Balata 90 New  
11 Box." Do you see those?

12 A. Yes.

13 Q. What do those reflect?

14 A. Golf balls received from them also.

15 Q. Under the "Box 93007" heading, there are  
16 six samples; is that correct?

17 A. Yes.

18 Q. The first two are labeled "Sample No. 1"  
19 and "Sample No. 2." The rest are labeled a different  
20 way. Why were the samples labeled in those two  
21 different fashions?

22 A. They were labeled as supplied by the  
23 customer.

24 Q. Okay. You brought with you today several  
25 boxes of golf balls, including two boxes that look

1 like original packaging for the Wilson Ultra Tour  
2 Balata; is that correct?

3 A. That's correct.

4 Q. I have a few questions about these.

5 MR. SHUMAN: Let's mark this Exhibit  
6 Galipeau No. 2, with the understanding that  
7 Mr. Galipeau will be retaining it after the  
8 deposition.

9 (Exhibit No. 2 was marked  
10 for identification.)

11 BY MR. SHUMAN:

12 Q. Mr. Galipeau, what I've just had labeled  
13 Exhibit 2 is -- it's a green box labeled on its  
14 exterior as "Ultra Tour Balata," the number "90" on  
15 it. Would you agree with that characterization?

16 A. Yes.

17 Q. And it looks like inside the box are three  
18 golf balls and three empty sleeves, correct?

19 A. Correct.

20 Q. Is Exhibit 2 the same box referred to on  
21 page 131413 as Box 93007?

22 A. Not necessarily. They came in the -- that  
23 large box, but the -- that you have in your hand --  
24 with those two sleeves -- are indicative. The two  
25 sleeves in there, they are labeled, are indicative of

1 where the bars came from the six balls.

2 Q. Okay. So that is, there are two sleeves  
3 inside Exhibit 2 --

4 A. Yes.

5 Q. -- that are specifically labeled 93007?

6 A. Exactly.

7 Q. Okay. Those sleeves are empty. What  
8 happened to the balls that were in them?

9 A. Three of the balls are in the -- in the  
10 box. And we misplaced three of the other balls.

11 Q. Okay. But Acushnet provided you six of  
12 these --

13 A. Yes.

14 Q. -- these balls originally?

15 A. Exactly.

16 Q. Okay. I'm going to hand you one of these  
17 balls from Exhibit 2. And can you describe it for  
18 the record? Then I'll have some questions about it.

19 A. Okay. This is a ball we received,  
20 identified number 93007, and lot Sample No. 1. And  
21 this is the same sample that is identified in the  
22 report as Sample No. 1.

23 Q. Okay. There are, what look like, various  
24 red and black pen markings on the ball. Do you see  
25 those?

1           A.    Yes.  I see some various marks on the  
2   balls.

3           Q.    Okay.  Can you describe what those various  
4   markings are?

5           A.    The only marks I can describe are the ones  
6   that we applied to the bar, and those are those red  
7   dots.  The red dots.

8           Q.    Okay.  What do the single red dots  
9   represent?

10          A.    Where the hardness test was taken.

11          Q.    Okay.  The other red and black patterns  
12   that seem to form triangles and other shapes, those  
13   weren't placed there by PTLI?

14          A.    No.

15          Q.    The ball was like that when you got it from  
16   Acushnet?

17          A.    Yes.

18          Q.    Let me have that back, then.  Thank you.  
19   Excuse me.

20                Actually, let me hand you back Exhibit 2  
21   for a moment.  Can you verify for the record that  
22   each of the three golf balls in the box labeled  
23   Exhibit 2 is stamped with the legend "Wilson 90"?

24          A.    Yes.

25                MR. SHUMAN:  Okay.  Let's mark the



1 next exhibit Galipeau 3. It will also be retained by  
2 the witness.

3 (Exhibit No. 3 was marked  
4 for identification.)

5 MR. SHUMAN: Okay. For the record,  
6 Galipeau 3 is a box that looks like original Wilson  
7 packaging. It's labeled "Ultra Tour Balata 90," has  
8 the Wilson logo on it. Inside it are two golf balls  
9 and three empty sleeves.

10 BY MR. SHUMAN:

11 Q. Can you confirm that, Mr. Galipeau?

12 A. Yes.

13 Q. Mr. Galipeau, can you confirm that the two  
14 balls in Exhibit 3 are also marked "Wilson 90"?

15 A. Yes.

16 Q. Mr. Galipeau, to your knowledge, did you  
17 ever receive from Acushnet any balls labeled "Wilson  
18 100"?

19 A. Not to my knowledge.

20 Q. Did you ever receive any packaging from  
21 Acushnet labeled "Wilson 100"?

22 A. Not to my knowledge.

23 Q. Let's look back to Exhibit 1, the PTLI  
24 report, on page 131413. Exhibit 3 corresponds to the  
25 second group on that page, the Wilson Ultra Tour

1 Balata, New Box?

2 A. Correct.

3 Q. Under that heading, there are nine entries.

4 Does that mean PTLI tested nine balls from that box?

5 A. Yes. Correct.

6 Q. Okay. There are only two balls in this box  
7 now. What happened to the other seven?

8 A. Those were misplaced.

9 Q. Do you have any knowledge of how those  
10 balls came to be misplaced?

11 A. No.

12 Q. How did you come to understand that they  
13 had been misplaced?

14 A. After these -- the specimens were retained,  
15 per the customer, in a conditioned area, upon being  
16 subpoenaed, we reviewed the samples and those were  
17 missing.

18 Q. Do you have any idea at what time these  
19 balls might have gone missing?

20 A. No.

21 Q. But it was sometime in between the testing  
22 of the balls and your receipt of the subpoena?

23 A. Correct.

24 Q. Fair enough.

25 On page AC131413, it says the analyst is

1 "J. McCarthy"?

2 A. Yes.

3 Q. Who is J. McCarthy?

4 A. He is a test technician for plastics -- for  
5 Plastics Technology Laboratories.

6 Q. What does the "J" stand for?

7 A. James.

8 Q. How long has Mr. McCarthy worked for PTLI?

9 A. Eighteen years.

10 Q. Mr. McCarthy is certified to perform D2240  
11 tests?

12 A. Yes, he is.

13 Q. Do you require Mr. McCarthy to take any  
14 continuing education or certification to maintain  
15 that rating?

16 A. What we do is we participate in  
17 Collaborative Testing Service round robin testing,  
18 where every quarter we have to perform tests and  
19 we're compared to different laboratories to determine  
20 whether our results are comparable.

21 Q. When was the last time PTLI participated in  
22 round robin testing related to D2240?

23 A. Last quarter.

24 Q. That is third quarter 2007?

25 A. I'm not -- I'm not sure whether it was the

1 third -- I think it is the third quarter. I did  
2 supply documents related to CTS testing with the  
3 discovery documents.

4 Q. Okay. We --

5 A. And it does -- it does contain those  
6 quarters.

7 Q. All right. We may get to those later.

8 To your knowledge, has Mr. McCarthy ever  
9 failed a certification test related to D2240?

10 A. No. There is no certification test, per  
11 se, for that method.

12 Q. Suffice it to say, you trust Mr. McCarthy  
13 to perform these tests accurately?

14 A. Yes. He performs a verification test  
15 before running the test on a known sample. And we  
16 correlate those results to make sure that the testing  
17 is done properly.

18 Q. That's standard procedure for PTLI?

19 A. Standard procedure. It's a verification  
20 test.

21 Q. What is the known sample that you use to  
22 perform the D2240 verification test?

23 A. There are Shore -- there are blocks of a  
24 specified hardness that are purchased for  
25 verification purposes.

1 Q. Purchased from what source?

2 A. I would have to take a look at that.

3 Obviously, an equipment supplier.

4 Q. Looking back to page AC131413, it says  
5 "indenter used" was, in quotes, "D;" do you see that?

6 A. Yes.

7 Q. What does that refer to?

8 A. That refers to the shape of the indenter  
9 used to determine hardness. And that's prob --  
10 that's the geometry used.

11 Q. The geometry of a D indenter is different  
12 from a C indenter?

13 A. Yes.

14 Q. Did Acushnet ask PTLI to perform any Shore  
15 C tests on the samples it provided?

16 A. No.

17 Q. Did you offer to perform any Shore C tests?

18 A. No.

19 Q. If Acushnet had asked you to supply Shore C  
20 data for the balls you tested, would you have  
21 performed those tests using a C indenter?

22 A. No.

23 Q. How would you have provided that data?

24 A. We do not have a Shore C. Each indenter is  
25 a separate piece of equipment. D2240 specifies

1 multiple methods from A to G, I believe, or double O.

2 And we do not -- we have A and D indenters.

3 Q. Okay. So you could not provide Shore C  
4 readings to Acushnet because PTLI does not have a  
5 Shore C durometer?

6 A. Yes. It's a rare -- it's a very rare test.

7 Q. If Acushnet had asked you to translate the  
8 Shore D measurements you obtained into Shore C  
9 ratings, could you have done that for Acushnet?

10 A. According to the standard, there's no  
11 simple relationship between indenters.

12 Q. Okay. In other words, no?

13 MR. DONNELLY: Object. Object to the  
14 form of the question.

15 A. According to the method, there is no simple  
16 relationship. So I couldn't transfer it based on the  
17 method.

18 BY MR. SHUMAN:

19 Q. Let's turn back to Exhibit 1. And let me  
20 direct your attention to pages AC131417 through 425.  
21 These pages appear to be a list under the heading,  
22 "Scope of Accreditation." Can you describe what  
23 these pages reflect?

24 A. This reflects the tests under where -- for  
25 which we are accredited to ISO 17025. ISEO -- ISO



1 17025 accredits your proficiency for specific test  
2 methods.

3 Q. So PTLI has been accredited by ISO for each  
4 of these methods?

5 A. AALA, the American Association for  
6 Laboratory Accreditation, which accredits to ISO  
7 17025, for each and every one of these methods.

8 Q. Okay. D2240 is one of these methods,  
9 right?

10 A. Correct.

11 Q. Among all of these methods that PTLI is  
12 accredited to perform, would you say D2240 is among  
13 the more common or the less common?

14 A. More common.

15 Q. How about D790, more common or less common?

16 A. More common.

17 Q. To your knowledge, before this project you  
18 received from Mr. Lester, had PTLI done any work  
19 previously for the Acushnet Company?

20 A. No.

21 Q. Do you know whether PTLI has ever done any  
22 work for Callaway Golf Company?

23 A. I don't recollect.

24 Q. Do you know whether PTLI has ever done any  
25 work for Spalding or Top-Flite?

1           A.    Actually, we might have done work for  
2    Callaway, now that I remember. I think we might  
3    have.

4           Q.    On what occasion?

5           A.    It was years ago, but I do remember  
6    something to that respect.

7           Q.    It would've pertained to golf balls?

8           A.    Not necessarily.

9           Q.    All right. Do you recall whether PTLI has  
10   ever performed any work for Spalding or Top-Flite?

11          A.    Out of Springfield, Mass.?

12          Q.    Springfield or Chicopee, yes.

13          A.    Years -- years ago we did, relating to golf  
14   clubs.

15          Q.    That is golf clubs, not golf balls?

16          A.    Golf clubs, yeah.

17          Q.    Who was the first person to contact you  
18   about this work for Acushnet?

19          A.    I believe Troy Lester.

20          Q.    What did Mr. Lester tell you when he first  
21   contacted you?

22          A.    Whether we could perform ASTM D2240  
23   hardness and plus some flexural testing.

24          Q.    And what was your reply?

25          A.    That's what we do all the time. That's our

1 job.

2 Q. What else did Mr. Lester tell you on this  
3 occasion?

4 A. I don't recall.

5 Q. Do you recall the date when Mr. Lester  
6 first contacted you?

7 A. I don't recall the date. I do know that it  
8 was in the spring of this year.

9 Q. Did you create any documentation on the  
10 occasion when Mr. Lester first contacted you?

11 A. No.

12 Q. How did you leave things with Mr. Lester?  
13 That is, did he tell you there would be a follow-up  
14 conversation?

15 A. I don't recall the specifics. Typically,  
16 our marketing or our customer service would get in  
17 contact with Mr. Lester. I'm the -- I'm sort of  
18 downstream. I talk technical. They hand it over to  
19 our customer service, which will carry it forward  
20 with the additional information and requests.

21 Q. I took Mr. Dalton's deposition yesterday,  
22 Jeffrey Dalton. You've met him before?

23 A. Yes.

24 Q. Mr. Dalton told me that he attended a  
25 meeting at PTLI with you on May 17th of this year.

1 A. Correct.

2 Q. Is that your recollection?

3 A. Correct.

4 Q. Who else was present at that meeting?

5 A. Troy Lester, Dr. McKnight.

6 Q. William McKnight?

7 A. Yeah. And Rick Kondel from PTLI.

8 Q. Could you spell his name for the record?

9 A. K O N D E L.

10 Q. What is Mr. Kondel's title at PTLI?

11 A. He's the assistant laboratory manager and  
12 head analytical chemist.

13 Q. What was the purpose of this May 17th  
14 meeting?

15 A. To discuss the testing that would be  
16 performed -- be performed for Acushnet.

17 Q. And at this meeting, you received the  
18 instructions by which you carried out the testing  
19 reported in Exhibit 1?

20 A. Yes.

21 Q. Who gave you those instructions?

22 A. I believe it was a discussion between  
23 Mr. Dawson --

24 Q. Dalton?

25 A. Or Dalton, excuse me -- myself and Troy

1 Lester and Professor McKnight.

2 Q. What specifically was Dr. McKnight's  
3 participation in this meeting?

4 A. Just to review the testing that we were  
5 going to be performing as the expert.

6 Q. How did he review the testing you would be  
7 performing?

8 A. We showed him the equipment it was going to  
9 be tested on and the methodology that was going to be  
10 used.

11 Q. What was his reaction to being shown this  
12 equipment?

13 A. That it was a well-wired lab --  
14 professional laboratory and everything was in good  
15 order.

16 Q. Had you ever worked with Professor McKnight  
17 before?

18 A. No.

19 Q. Had you heard of Professor McKnight before?

20 A. No.

21 Q. At the May 17th meeting, you were delivered  
22 various golf balls samples, correct?

23 A. Correct.

24 Q. And then Mr. Dalton testified yesterday  
25 that there was a second group of golf balls delivered

1 to you on May 19th; is that your recollection?

2 A. Correct.

3 Q. Are all of the samples Acushnet delivered  
4 to you, with the exception of the missing Ultra Tour  
5 Balata balls, here today?

6 A. Correct.

7 Q. I am picking at random a white golf ball  
8 box from a large cardboard box produced here today.  
9 Among these white golf ball boxes, each of which  
10 contains, or can contain, a dozen balls, did PTLI add  
11 any writing or marking to these boxes?

12 A. Yes.

13 Q. In what way?

14 A. We -- I -- the set number, the project  
15 number, to identify the golf balls to a specific  
16 project, and what was their contents.

17 MR. SHUMAN: Okay. For the record,  
18 let's mark one of these boxes as an exhibit. This  
19 will be Galipeau 4. This will be retained by the  
20 witness.

21 (Exhibit No. 4 was marked  
22 for identification.)

23 BY MR. SHUMAN:

24 Q. Mr. Galipeau, I'm going to hand you Exhibit  
25 4. Can you first describe the exterior of the box



1 and confirm the origin of the markings on it?

2 A. It's a white nondescript box. The origin  
3 of the markings on the box, number one, is the  
4 project number to identify the box as being  
5 associated with a project related to Acushnet, the  
6 identification of the set -- for this sample is Set  
7 1 -- and the contents, golf balls.

8 Q. How are the contents of this box deemed to  
9 be Set 1?

10 A. If you look -- you open the box with the  
11 balls up and you look at the sample, they're  
12 identified as a 1, dash, 1, through 1, dash, 12.

13 Q. Where did the 1 dash markings come from?

14 A. They were on the balls when we received  
15 them.

16 Q. I also see that the balls inside the box  
17 have various red dots on them. Can you explain the  
18 origin of those dots?

19 A. The red dot is where the actual hardness  
20 test was taken.

21 Q. That is where the indenter was placed?

22 A. Exactly.

23 Q. How many red dots, then, does each of these  
24 balls have?

25 A. There should -- there should be five,

1 associated with the number of readings.

2 Q. Whose decision was it to take five indenter  
3 readings per ball?

4 A. The -- the decision came from, I believe,  
5 Acushnet and through our discussions at the meeting.

6 MR. SHUMAN: Why don't we take a short  
7 break while I organize my next exhibit.

8 MR. DONNELLY: Sure.

9 THE VIDEOGRAPHER: Going off record at  
10 12:37 p.m.

11 (A recess was taken at 12:37 p.m. until 12:40 p.m.)

12 (Exhibit No. 5 was marked  
13 for identification.)

14 THE VIDEOGRAPHER: Back on record at  
15 12:40 p.m.

16 BY MR. SHUMAN:

17 Q. Mr. Galipeau, I'm going to hand you what  
18 we've marked as Exhibit 5. This is a three-page  
19 stapled document in your document production labeled  
20 "PTLI 101 through 103." Can you look that over and  
21 tell me what it is?

22 A. Basically, it's a -- just an outline of  
23 what was received by Acushnet on May 17th.

24 Q. Okay. The first page, 101, seems to be  
25 dated May 17th, correct?

1 A. Yes.

2 Q. The next page has the date May 19th on it;  
3 do you see that?

4 A. Yes.

5 Q. And then there's initials next to that.  
6 Whose initials are those?

7 A. Those are my initials.

8 Q. On page 102?

9 A. Yes.

10 Q. That's RJG?

11 A. Yes.

12 Q. Okay. And on the first page, that is Rick  
13 Kondel's signature?

14 A. That is Rick Kondel, yes.

15 Q. Whose handwriting is on page 101?

16 A. I believe that's Rick Kondel.

17 Q. And on page 102?

18 A. That's me, my handwriting.

19 Q. On page 101, upper left-hand corner,  
20 there's the sum, 144 plus 7 plus 15. What does that  
21 reflect?

22 A. That's just the number of durometers that  
23 were going to be done, durometer hardness test.

24 Q. Okay. That reflects 144 balls from sets 1  
25 through 12, correct?

1 A. Yes.

2 Q. And 15 Wilson Ultra Tour Balata balls?

3 A. I believe so.

4 Q. And then the 7 extra Shore D readings were  
5 on the circular pucks you had provided?

6 A. Yes. Yes.

7 Q. I see.

8 When you met with Mr. Dalton and  
9 Mr. Lester, were you told anything about the  
10 litigation between Acushnet and Callaway Golf?

11 A. No.

12 Q. Did they mention that these measurements  
13 could or would be used in the litigation with  
14 Callaway Golf?

15 A. Yes.

16 Q. Did you have any reaction to that?

17 A. No. It's something we do all the time.

18 Q. Have you ever had any discussion with  
19 Acushnet about being a witness at the trial between  
20 Acushnet and Callaway Golf?

21 A. In support of our data?

22 Q. In -- for any purpose.

23 A. Yes.

24 Q. On what occasion?

25 A. This morning.

1 Q. With Mr. Donnelly?

2 A. Yes.

3 Q. Have you had any previous discussions with  
4 anyone at Acushnet or Howrey about being a trial  
5 witness?

6 A. No.

7 Q. Looking back to Exhibit 5, let's take a  
8 look at page PTLI 103. What is shown on page PTLI  
9 103?

10 A. I -- I don't -- I wasn't informed on what  
11 this was. This was, again, additional information we  
12 just attached and received.

13 Q. You received this page from Acushnet?

14 A. Yes.

15 Q. At the May 17th meeting?

16 A. Yes.

17 Q. Was any explanation provided as to what it  
18 was?

19 A. No.

20 Q. Do you have any understanding now of what's  
21 shown on page 103?

22 A. Yeah. It looks like some of these  
23 materials, outer covers, are some of the materials we  
24 tested, as -- as pucks or as flexural specimens, raw  
25 materials.

1 Q. In any of your discussions with Acushnet or  
2 Dr. McKnight, or any of Acushnet's attorneys, were  
3 you ever made aware of how the materials to be tested  
4 had been selected?

5 A. No.

6 Q. Do you have any understanding of that now?

7 A. No, I don't, really.

8 Q. Do you have any awareness of the issues in  
9 the current litigation between Callaway Golf and  
10 Acushnet?

11 A. No.

12 Q. Have you read anything in the press about  
13 it?

14 A. No.

15 MR. SHUMAN: Let's mark this next  
16 exhibit, Galipeau No. 6.

17 (Exhibit No. 6 was marked  
18 for identification.)

19 MR. DONNELLY: Mr. Shuman, will you  
20 identify what that is?

21 MR. SHUMAN: Certainly. This is PTLI  
22 108.

23 MR. DONNELLY: I'll get that from  
24 my...

25



1 BY MR. SHUMAN:

2 Q. Okay. Mr. Galipeau, I'm going to hand you  
3 a page we've labeled Exhibit 6. Could you please  
4 explain what Exhibit 6 is?

5 A. This is a Shore D hardness verification  
6 check sheet. Basically, before an operator  
7 runs equipment -- or during when he's running a piece  
8 of equipment, he performs a verification to make sure  
9 that the equipment is operating properly since its  
10 last yearly calibration. And this is basically where  
11 they record the results.

12 Q. There are three columns on there, "Blue  
13 18," "Grey 35," and "Black 80." What do those refer  
14 to?

15 A. Those are different Shore D durometer  
16 hardness value samples that we have. In other words,  
17 if we were running, we would try to choose a  
18 verification block which is close to where we are  
19 running so we could verify whether the equipment is  
20 operating properly. Again, this is a verification.

21 Q. It looks like the row dated May 22, 2007 is  
22 highlighted; do you see that?

23 A. Yes.

24 Q. Do you know why that row would be  
25 highlighted?

1           A.    I highlighted it because that was the date  
2           and time frame that the testing was performed.

3           Q.    In the operator column there, it looks like  
4           there are the initials "JM"?

5           A.    That's Jim McCarthy.

6           Q.    Okay. And in the right-hand column,  
7           there's the number "80.9"?

8           A.    Yes.

9           Q.    What does 80.9 reflect?

10          A.    That's the actual durometer reading. The  
11          verification, the SPC, must be within plus or minus  
12          two points of the stated value. For this puck, it is  
13          80, so that's within acceptable tolerance for that  
14          piece of equipment.

15          Q.    Does the fact that a reading of 80.9 was  
16          measured on the Black 80 specimen -- let me start  
17          over again. I'm getting myself confused.

18                In the 80.9 reading obtained on May 22nd,  
19          does the .9 difference represent some kind of error?

20          A.    No. It represents -- represents normal  
21          variation for that piece of equipment -- acceptable  
22          variation for that piece of equipment.

23          Q.    Acceptable for what purpose?

24          A.    For verification that it's within  
25          operating parameter -- correct operating parameters.

1 Q. Those operating parameters are that the  
2 reading should be within plus or minus two points of  
3 the stated value?

4 A. Exactly.

5 Q. Who provides that plus or minus two  
6 specification?

7 A. The company that supplies the verification  
8 blocks.

9 Q. Not the company who supplies the durometer?

10 A. No.

11 MR. SHUMAN: Let's mark the next  
12 exhibit Galipeau 7.

13 Mr. Donnelly, this is pages 112 and 113.

14 MR. DONNELLY: Thank you.

15 (Exhibit No. 7 was marked  
16 for identification.)

17 BY MR. SHUMAN:

18 Q. Mr. Galipeau, I'm handing you Exhibit 7.  
19 Can you explain what that is?

20 A. This is a certification of calibration of a  
21 Shore D durometer, hardness tester, or the indenter,  
22 that Plastics Technology Laboratory used for this  
23 testing.

24 Q. This calibration was performed December 21,  
25 2006?

1 A. Yes.

2 Q. And it says it's scheduled for its next  
3 calibration on the same date in 2007?

4 A. Yes.

5 Q. Why was PTLI Shore D durometer calibrated  
6 on December 21, 2006?

7 A. We are required to calibrate yearly.

8 Q. Required by whom?

9 A. By our certification accreditation and our  
10 quality policy.

11 Q. The Shore D durometer mentioned in this  
12 document is the same durometer used to perform the  
13 testing on Acushnet samples?

14 A. Yes.

15 Q. On the second page, page 113, inside the  
16 box there, it says, "Mitutoyo Gage Block set." Do  
17 you see that?

18 A. Yes.

19 Q. What is that?

20 A. That's the instrument that the calibration  
21 expert used to calibrate the equipment. Those are  
22 some of the instruments he used.

23 Q. Are the Mitutoyo blocks the same blocks  
24 that PTLI uses to calibrate its equipment regularly?

25 A. No. The Mitutoyo are gage blocks that are

1 used to accurately determine the indentation depth  
2 when calibrating a piece of equipment. So it's used  
3 specifically for calibration indentation depth by the  
4 calibration company.

5 Q. This document also refers to an "Omegadyne  
6 0 to 25 pound load cell." What is that?

7 A. That's the load cell which determines the  
8 pressure that the indenter excerpts on the specimen.  
9 That's how they calibrate that to verify that it  
10 hasn't changed.

11 MR. SHUMAN: This will be Galipeau  
12 Exhibit 8, PTLI pages 122 through 125.

13 (Exhibit No. 8 was marked  
14 for identification.)

15 BY MR. SHUMAN:

16 Q. Mr. Galipeau, I'm handing you what we've  
17 marked as Exhibit 8. Can you explain what it is?

18 A. This is a -- basically, a report of our  
19 results for Collaborative Testing Service round robin  
20 that we participate in to verify our proficiency in  
21 Shore hardness testing.

22 And basically what this is is this  
23 basically reports the results of multiple  
24 laboratories that basically submit data using the  
25 same identical specimens. And they see where PTLI

1 fits within that statistical sampling. As you can  
2 see, there's an eclipse in the page 000125. And if  
3 you look at --there's one dot that's circled, that's  
4 our laboratory and how we fit within the other  
5 laboratories, which is very close to the grand mean,  
6 central eclipse.

7 Q. Let's turn to page PTLI 124. What is the  
8 meaning of the bar graph on page 124?

9 A. Where you deviate your variation from the  
10 grand mean of all the laboratories.

11 Q. The "Y" axis of this graph is labeled  
12 "CPV." What does that stand for?

13 A. Co-efficient variation, process variation.  
14 That's just a variation around the grand mean.

15 Q. Variation in standard deviations or by what  
16 units?

17 A. I believe -- I'm not an expert on -- in the  
18 statistics involved in this, but I believe it's  
19 variation in standard deviations, but I'm not 100  
20 percent sure.

21 Q. The X axis of this bar graph says "cycle,"  
22 what does that refer to?

23 A. That is -- that's basically the quarter at  
24 which it was tested. Each quarter is a cycle.

25 Q. Okay. So this chart shows that the most



1 recent cycle of this round robin testing was number  
2 153?

3 A. Correct.

4 Q. In each cycle, there are two bars  
5 represented, a gray one and kind of a darker one.  
6 What do those two bars represent?

7 A. Two samples sets.

8 Q. In other words, these two samples are the  
9 samples passed from lab to lab in the round robin  
10 test?

11 A. Exactly. There will be two sets of samples  
12 passed.

13 Q. Apart from the May 17th meeting, have you  
14 ever spoken to Dr. McKnight on any other occasion?

15 A. No.

16 Q. Do you know if anyone else from PTLI has  
17 spoken to Dr. McKnight on any other occasion?

18 A. I wouldn't know. I wouldn't know that. I  
19 know that I haven't.

20 Q. Since the May 17th meeting, have you spoken  
21 at all with Jeffrey Dalton?

22 A. Yes. May 19th, on Saturday, he dropped  
23 samples off and I spoke to him then.

24 Q. Okay. That's right. After the May 19th  
25 conversation with Mr. Dalton, did you speak to him

1 further?

2 A. No. Not that I recall.

3 Q. When this testing was completed, you sent  
4 the results to Mr. Lester at Acushnet, correct?

5 A. I didn't personally send them. The  
6 laboratory sent the results, correct.

7 Q. Do you have any understanding as to why  
8 these results were sent to Mr. Lester as opposed to  
9 someone else?

10 A. He was the originating customer. He is the  
11 customer on the PO, so that's why they were sent to  
12 him.

13 Q. Have you had any discussions with  
14 Mr. Lester subsequent to the May 17th meeting?

15 A. Not necessarily. No, I didn't. I'm  
16 not -- not regarding these results.

17 Q. Regarding anything?

18 A. Regarding confidentiality of the -- the  
19 documents, the original documents I was going to send  
20 to Lowrey for copying.

21 Q. Oh, yes. Okay. I saw that in your  
22 document production.

23 A. Yeah.

24 Q. PTLI billed Acushnet approximately \$19,000  
25 for this testing, correct?

1 A. Yes.

2 Q. Has Acushnet paid that invoice in full?

3 A. I'm not sure.

4 Q. Are you receiving any compensation from  
5 Acushnet for your time today?

6 A. Yes.

7 Q. How much?

8 A. We charge 150 -- 40 -- 50 dollars an hour  
9 for preparation and \$250 an hour for appearance fee.

10 Q. How much preparation time did you put in  
11 before today's deposition?

12 A. Approximately an hour.

13 Q. How did you spend that hour of preparation?

14 A. Putting the documents together for copying.

15 Q. Did you meet with any of Acushnet's  
16 attorneys before this deposition?

17 A. Yes.

18 Q. Who?

19 A. (Indicating).

20 Q. Mr. Donnelly?

21 A. Mr. Donnelly.

22 Q. On what date?

23 A. This morning.

24 Q. For approximately how long?

25 A. One hour.

1 Q. Mr. Galipeau, have you given any thought as  
2 to whether you might attend trial in this matter in  
3 Delaware in December?

4 A. Do I have a choice? Yes.

5 Q. And what are your thoughts in that regard?

6 A. If called -- if called, I will be present.

7 Q. That is, if Acushnet asks you to be  
8 present, you will be present?

9 A. Yes.

10 MR. SHUMAN: Okay. Mr. Galipeau,  
11 thank you for your time today. I have no further  
12 questions.

13 THE WITNESS: Thank you.

14 MR. DONNELLY: I don't have any  
15 questions, but the witness will -- we're reserving  
16 the right for him to read and sign. We can go off  
17 the record.

18 THE VIDEOGRAPHER: Okay. This  
19 concludes the deposition at 1:02 p.m. And the number  
20 of media used is one. We are off the record at  
21 1:02 p.m.

22 (Whereupon, the deposition was  
23 concluded at 1:02 p.m.)

24

25

1  
2  
3  
4  
5  
6  
7  
8  
9 I, R. JAMES GALIPEAU, do hereby declare under  
10 penalty of perjury that I have read the foregoing  
11 transcript; that I have made any corrections as appear  
12 noted, in ink, initialed by me, or attached hereto; that  
13 my testimony as contained herein, as corrected, is true  
14 and correct.

15 EXECUTED this \_\_\_\_\_ day of \_\_\_\_\_,  
16 20\_\_\_\_\_, at \_\_\_\_\_, \_\_\_\_\_.  
(City) (State)

17  
18  
19  
20 \_\_\_\_\_  
R. JAMES GALIPEAU  
21  
22  
23  
24  
25

1 COMMONWEALTH OF MASSACHUSETTS)

2 HAMPDEN, SS. )

3 I, Leigh B. Gershowitz, Registered Merit Reporter  
4 and Notary Public in and for the Commonwealth of  
5 Massachusetts, do hereby certify that there came  
6 before me on October 16, 2007, at 12:04 p.m., the  
7 person hereinbefore named, who was by me duly sworn;  
8 that he was thereupon examined upon his oath, and his  
9 examination reduced to typewriting under my direction;  
10 and that the deposition is a true record of the  
11 testimony given by the witness.

12 I further certify that I am neither attorney or  
13 counsel for, nor related to or employed by, any of  
14 the parties to the action in which this deposition is  
15 taken, and further that I am not a relative or  
16 employee of any attorney or counsel employed by the  
17 parties hereto or financially interested in the  
18 action.

19 In witness whereof, I have hereunto set my hand  
20 and seal this 23rd day of October, 2007.

21  
22  
23 Notary Public

24 My commission expires

25 May 4, 2012